KLİMİK
TÜRK KLİNİK MİKROBİYOLOJİ VE İNFEKSİYON HASTALIKLARI DERNEĞİ

XVI. Türk Klinik Mikrobiyoloji ve İnfeksiyon Hastalıkları Kongresi
KLİMİK 2013

Toplum Kökenli Enfeksiyonlarda Güncel Durum- 1

PNÖMONİLER

Yrd. Doç. Dr. Sema ALP ÇAVUŞ
Dokuz Eylül Üniversitesi Tıp Fakültesi
Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji AD İzmir

DOKUZ EYLÜL ÜNİVERSİTESİ

- Rehberler

- TTD 2009
- IDSA/ATS 2007
- ERS/ESCMID 2011

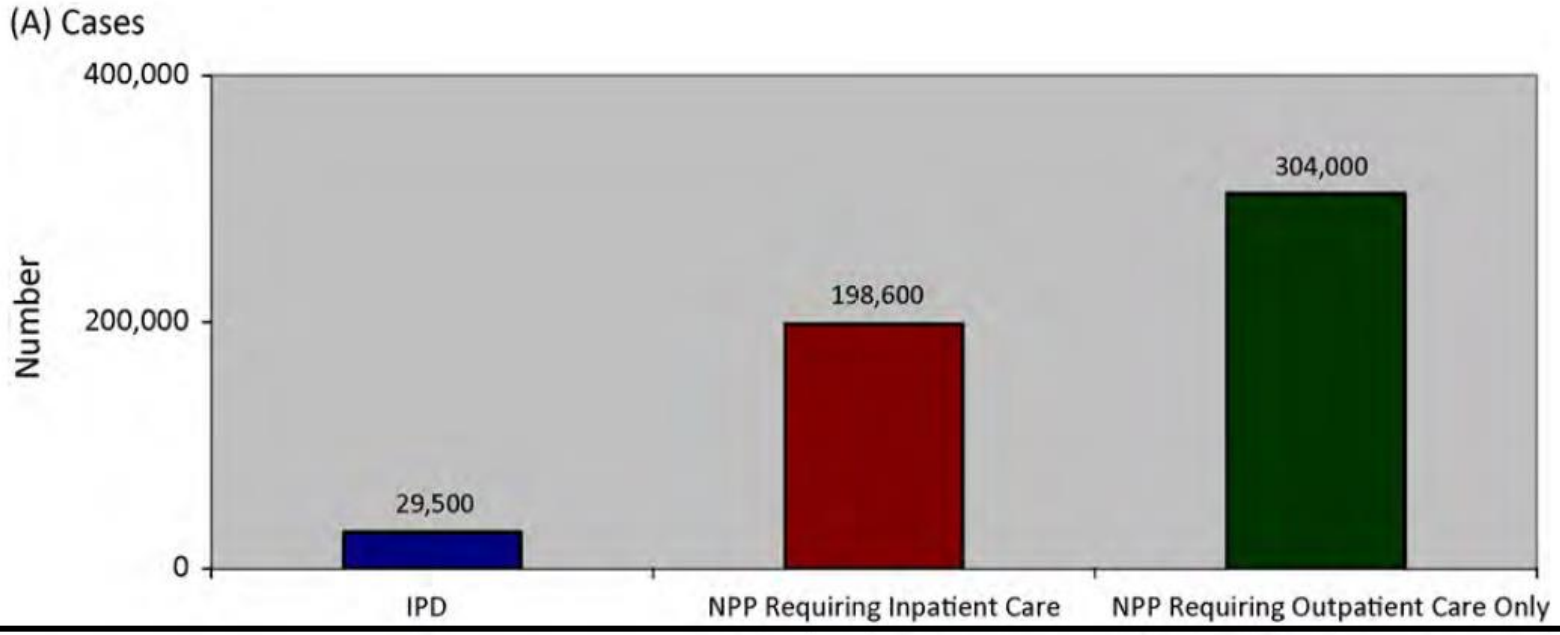
Vaccine 28 (2010) 4955–4960

ELSEVIER

Vaccine

Clinical and economic burden of pneumococcal disease in older US adults

Derek Weycker[a,*], David Strutton[b], John Edelsberg[a], Reiko Sato[b], Lisa A. Jackson[c]



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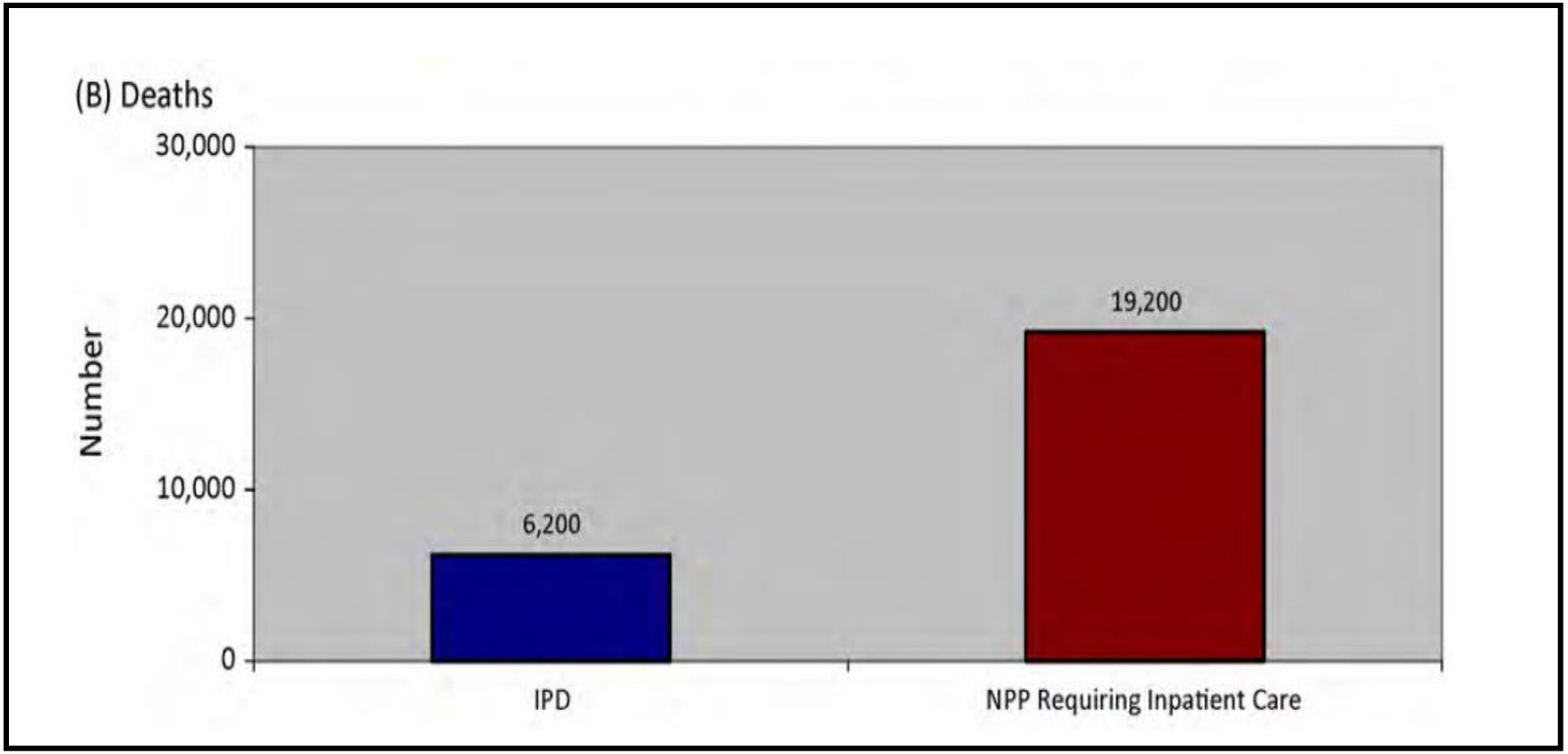
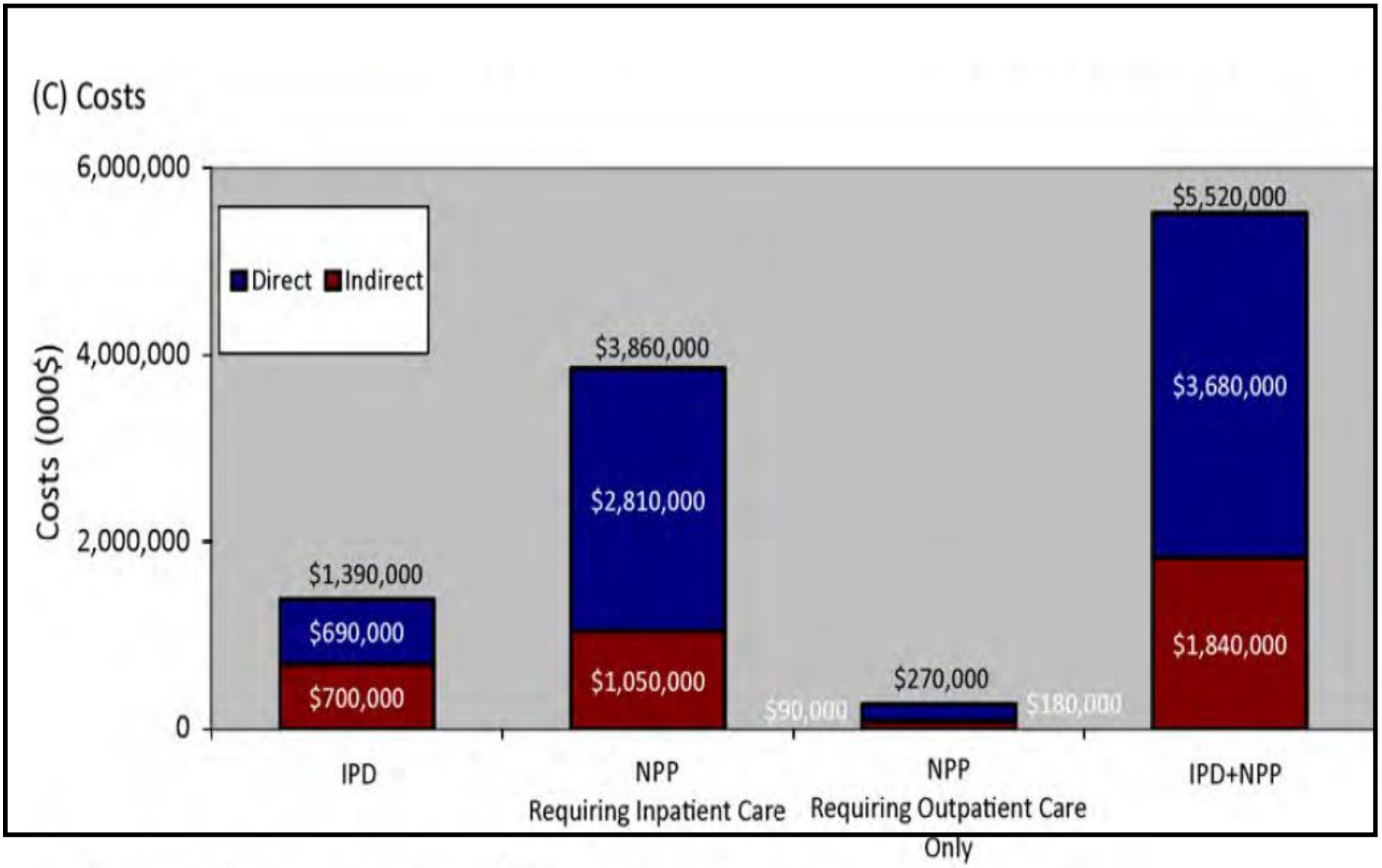
Clinical and economic burden of pneumococcal disease in older US adults

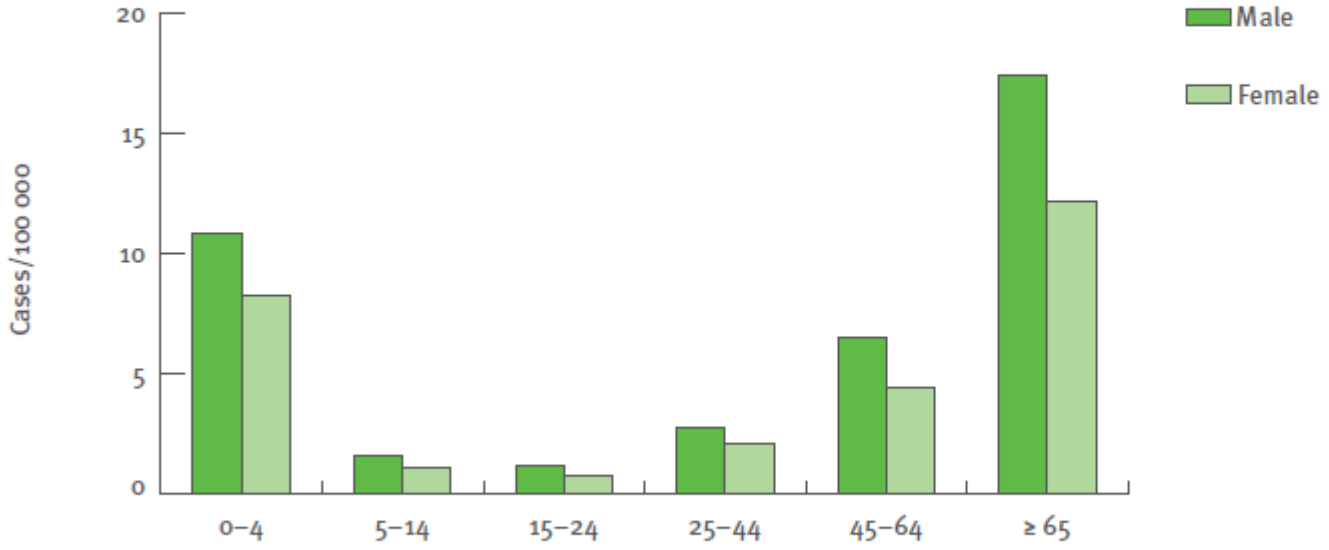
Derek Weycker[a,*], David Strutton[b], John Edelsberg[a], Reiko Sato[b], Lisa A. Jackson[c]
[a] Policy Analysts Inc. (PAI), Brookline, MA, United States
[b] Wyeth Research, Collegeville, PA, United States
[c] Group Health Research Institute, Seattle, WA, United States





Weycker D, et al.Vaccine 2010;28:4955-60.

Figure 2.5.12. Rates of reported confirmed invasive pneumococcal disease cases, by age and countries, 2006–10



Source: Country reports from Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Malta, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

http://www.ecdc.europa.eu/en/publications/Publications/Annual-Epidemiological-Report-2012.pdf

ETİYOLOJİ

Tüberküloz ve Toraks Dergisi 2010; 58(2): 119-127

Etiological agents of community-acquired pneumonia in adult patients in Turkey; a multicentric, cross-sectional study

İftihar KÖKSAL[1], Tevfik ÖZLÜ[2], Özlem BAYRAKTAR[1], Gürdal YILMAZ[1], Yılmaz BÜLBÜL[2], Funda ÖZTUNA[2], Rahmet ÇAYLAN[1], Kemalettin AYDIN[1], Nurgün SUCU[1], *TUCAP Çalışma Grubu[3]

- Türkiye'nin farklı bölgelerinden 8 üniversite hastanesi
- Kasım 2003- Mart 2005, 218 hasta, %62.8'inde etken saptandı

Bu kesitsel çalışma öncesinde antibiyotik tedavisi almayan erişkin hastalarda toplum kökenli pnömoniler (TKP)'in etyolojisinin araştırılması için tasarlandı. Çalışmaya alınan 218 hastanın 137 (%62.8)'sinde etyolojik ajan tespit edildi. En sık tespit edilen ajanlar Streptococcus pneumoniae (%14.7), Mycoplasma pneumoniae (%13.8) ve respiratuar sinsityal virüs (%10.1) idi. Olguların %50.9'unda tek patojen, %11.9'unda çoklu patojen belirlendi. Olguların %35.8'inde tipik patojenler,

%20.2'sinde atipik patojenler, %20.6'sında ise viral patojenler belirlendi. Altta yatan hastalık olarak hastaların %42.7'sinde kronik obstrüktif akciğer hastalığı vardı. S. pneumoniae TKP'li erişkin hastalarda en yaygın patojendi. Atipik patojenler 65 yaşın altında daha yaygındı. M. pneumoniae bu yaş grubunda en sık etkendi. Çalışmamız, Türkiye'de TKP'li hastalarda başlangıç antibiyotik tedavisinin, S. pneumoniae ve M. pneumoniae'yı kapsaması gerektiğini göstermektedir.

Atipikler anlamlı olarak gençlerde fazla yaşlılarda var

Table 1. The main demographic characteristics of patients with CAP.

Characteristics	Mean ± SD, n (%)
Age (y)	57.5 ± 17.6
≥ 65 year	94 (43.1)
< 65 year	124 (56.9)
Gender	
Male	147 (67.4)
Female	71 (32.6)
Underlying diseases	
COPD	93 (42.7)
Hypertension	65 (29.8)
Congestive heart failure	21 (9.6)
Diabetes mellitus	19 (8.7)
Bronchiectasis	4 (1.8)
Chronic renal failure	3 (1.4)

CAP: Community-acquired pneumonia,
COPD: Chronic obstructive pulmonary disease.

Table 2. Distribution of etiological agents in 218 patients with CAP.

Microorganism	Number (%)	
Etiology determined	**137 (62.8)**	
Typical pathogens	**78 (35.8)**	**[46.7]***
Streptococcus pneumoniae	32 **(14.7)**	[19.2]*
Haemophilus influenzae	13 **(6.0)**	[7.8]*
Klebsiella pneumoniae	8 **(3.7)**	[4.8]*
Streptococcus spp.	5 **(2.3)**	[3]*
Moraxella catarrhalis	5 **(2.3)**	[3]*
Escherichia coli	4 **(1.8)**	[2.4]*
Pseudomonas aeruginosa	4 **(1.8)**	[2.4]*
Other gram-negative	4 **(1.8)**	[2.4]*
Other gram-positive	3 **(1.4)**	[1.8]*
Atypical pathogens	**44 (20.2)**	**[26.3]***
Mycoplasma pneumoniae	30 (13.8)	[18]*
Chlamydia pneumoniae	9 (4.1)	[5.4]*
Legionella pneumophila	5 **(2.3)**	[3]*
Viral pathogens	**45 (20.6)**	**[26.9]***
Respiratory syncytial virus	22 **(10.1)**	[13.2]*
Parainfluenzae virus	11 (5.0)	[6.6]*
Influenzae virus	10 **(4.6)**	[6]*
Coxackie virus	2 **(0.9)**	[1.2]*
No etiology determined	**81 (37.2)**	
Total	**218 (100)**	

* Percent distribution of 167 etiologic agents in 137 patients with CAP.
CAP: Community-acquired pneumonia.

Özgün Çalışma/Original Article

Mikrobiyol Bul 2012; 46(4): 523-531

Toplum Kökenli Pnömonisi Olan Erişkin Hastalarda Konvansiyonel ve Multipleks PCR Yöntemleriyle Bakteriyel Etiyolojinin Araştırılması

Semra KURUTEPE[1], Talat ECEMİŞ[1], Aylin ÖZGEN[2], Can BİÇMEN[3], Pınar ÇELİK[4], Serir AKTOĞU ÖZKAN[5], Süheyla SÜRÜCÜOĞLU[1]

- Kasım 2008-Kasım 2010 ≥ 18 yaş üstü 128 hasta
- Multipleks PCR/*reverse line blot* hibridizasyon (Reverse Hybridization Sequence-Specific Oligonucleotide Probes-SSOP)

Tablo II. Etkenlerin Tanımlandıkları Yöntemlerine Göre Dağılımı

	Konvansiyonel yöntemler		Moleküler yöntem
Tanımlanan etken (n)	Kültür, n (%)*	Seroloji, n (%)*	M-PCR/RLBH, n (%)*
S.pneumoniae (32)	11 (8.6)	Y	31 (24.2)
H.influenza (9)	3 (2.3)	Y	9 (7)
M.catarrhalis (6)	1 (0.8)	Y	6 (4.7)
L.pneumophila (2)	0	2 (1.6)	1 (0.8)
M.pneumoniae (9)	Y	9 (7)	4 (3.1)
C.pneumoniae (4)	Y	4 (3.1)	2 (1.6)
Gram-negatif basil (10)	10 (7.8)	Y	Y
S.aureus (1)	1 (0.8)	Y	Y
Toplam (62)**	30 (23.4)	30 (23.4)	53 (41.4)
Toplam (73)***	41 (32)	41 (32)	53 (41.4)

* Yüzde oranları toplam hasta sayısı (n= 128) üzerinden hesaplanmıştır;
** *S.pneumoniae, H.influenzae, M.catarrhalis, C.pneumoniae, L.pneumophila* ve *M.pneumoniae*'nın toplam saptanma oranları;
*** Tüm etkenlerin toplam saptanma oranları.
M-PCR/RLBH: Multipleks PCR/*Reverse line blot* hibridizasyon; Y: Çalışılmadı.

Capelastegui *et al. BMC Infectious Diseases* 2012, **12**:134
http://www.biomedcentral.com/1471-2334/12/134

BMC Infectious Diseases

RESEARCH ARTICLE Open Access

Etiology of community-acquired pneumonia in a population-based study: Link between etiology and patients characteristics, process-of-care, clinical evolution and outcomes

Alberto Capelastegui[1,7*], Pedro P España[1], Amaia Bilbao[2], Julio Gamazo[3], Federico Medel[4], Juan Salgado[4], Iñaki Gorostiaga[4], Maria Jose Lopez de Goicoechea[5], Inmaculada Gorordo[1], Cristobal Esteban[1], Lander Altube[1] and Jose M Quintana[6]on behalf of Poblational Study of Pneumonia (PSoP) Group

Abstract

Background: The etiologic profile of community-acquired pneumonia (CAP) for each age group could be similar among inpatients and outpatients. This fact brings up the link between etiology of CAP and its clinical evolution and outcome. Furthermore, the majority of pneumonia etiologic studies are based on hospitalized patients, whereas there have been no recent population-based studies encompassing both inpatients and outpatients.

Methods: To evaluate the etiology of CAP, and the relationship among the different pathogens of CAP to patients characteristics, process-of-care, clinical evolution and outcomes, a prospective population-based study was conducted in Spain from April 1, 2006, to June 30, 2007. Patients (age >18) with CAP were identified through the family physicians and the hospital area.

Results: A total of 700 patients with etiologic evaluation were included: 276 hospitalized and 424 ambulatory patients. We were able to define the aetiology of pneumonia in 55.7% (390/700). The most frequently isolated organism was *S. pneumoniae* (170/390, 43.6%), followed by *C. burnetii* (72/390, 18.5%), *M. pneumoniae* (62/390, 15.9%), virus as a group (56/390, 14.4%), Chlamydia species (39/390, 106%), and *L. pneumophila* (17/390, 4.4%). The atypical pathogens and the *S. pneumoniae* are present in pneumonias of a wide spectrum of severity and age. Patients infected by conventional bacteria were elderly, had a greater hospitalization rate, and higher mortality within 30 days.

Conclusions: Our study provides information about the etiology of CAP in the general population. The microbiology of CAP remains stable: infections by conventional bacteria result in higher severity, and the *S. pneumoniae* remains the most important pathogen. However, atypical pathogens could also infect patients in a wide spectrum of severity and age.

Keywords: Pneumonia, Population-based study, Etiology

Table 1 Pathogens detected and methods used for diagnosis in 700 adults with community-acquired pneumonia

Pathogens			Diagnostic method performed*			
	Inpatients (N = 276)	Outpatients (N = 424)	Urinary Antigen (N = 678)	Sputum (N = 222)	Blood Culture (N = 221)	Serologic Test (N = 663)
Any pathogen identified	196 (71)	194 (45.7)				
Conventional bacteria†	136 (69.4)	43 (22.2)				
Streptococcus pneumoniae†	127 (64.8)	43 (22.2)	155 (22.9)	8 (3.6)	24 (10.9)	
Others bacteria	9 (4.6)	0 (0)		4 (1.8)	5 (2.3)	
Atypical pathogen†	60 (30.6)	130 (67)				
Coxiella burnetii†	15 (7.7)	57 (29.4)				72 (10.9)
Mycoplasma pneumoniae	22 (11.2)	40 (20.6)				62 (9.4)
Chlamydia pneumoniae	11 (5.6)	26 (13.4)				37 (5.6)
Chlamydia psittaci	1 (0.5)	1 (0.5)				2 (0.3)
Legionella pneumophila†	11 (5.6)	6 (3.1)	17 (3.5)			
Virus	21 (10.7)	35 (18)				
Influenza virus	6 (3.1)	18 (9.3)				24 (3.6)
Parainfluenza virus	15 (7.7)	17 (8.8)				32 (4.8)
Total, mixed infection	21 (10.7)	14 (7.2)				

Data are presented as numbers (percentage) unless otherwise stated. Values for mixed infections are included in those for each of the infecting organism. Others bacteria included *Escherichia coli* 4 cases, *Stafhylococcus aureus* 2 cases, *Enterococcus faecalis* 1 case, *Pseudomonas aeruginosa* 1 case, *Morganella morganii* 1 case.
*Data are presented as numbers of patients with positive results. % = positive results/number of test performed.
†*P* value <0.05, between inpatients and outpatients.

TKP ‘de *Staphylococcus aureus* oranı artıyor mu?

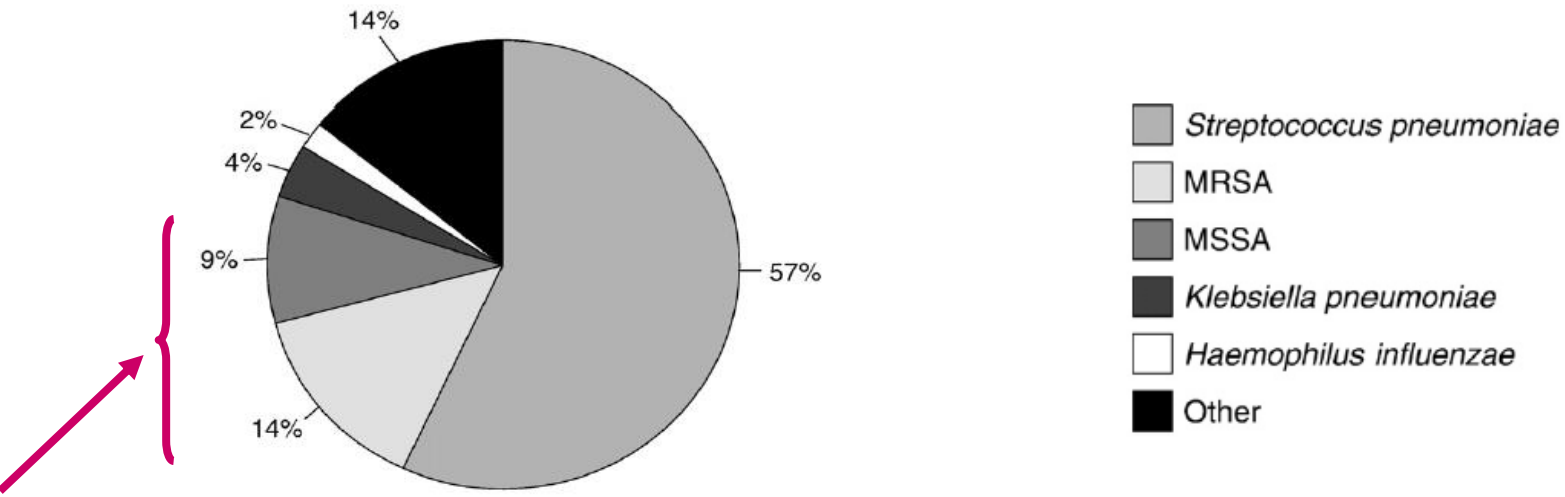
- Yakın zamanlara kadar sık olmayan bir nedeni idi → %1-5

- FOCUS 1 ve FOCUS 2 Çalışmaları
- *S.pneumoiae* %41.7
- *S.aureus* %16.5

File Jr TM, et al. Integrated analysis of FOCUS 1 and FOCUS 2. Clin Infect Dis 2010;51:1395–405.

- 12 üniversite acil servisinde yürütülen çalışmada 2. en sık etken olarak saptandı, etken elde edilenlerin %23’ü

Moran GJ, Krishnadasan A, Gorwitz RJ, et al. Prevalence of methicillin-resistant Staphylococcus aureus as an etiology of community-acquired pneumonia. ClinInfect Dis 2012;54:1126–33.



http://www.who.int/csr/don/2013_03_06/en/index.html

WHO | Novel coronavirus i...

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Global Alert and Response (GAR)

Novel coronavirus infection - update

6 MARCH 2013 - The Ministry of Health in Saudi Arabia has informed WHO of a new confirmed case of infection with the novel coronavirus (NCoV).

The patient, a 69-year-old male, was hospitalized on 10 February 2013 and died on 19 February 2013. Preliminary investigation indicated that the patient had no contact with previously reported cases of NCoV infection and did not have recent history of travel.

To date, WHO has been informed of a global total of 14 confirmed cases of human infection with NCoV, including eight deaths. Of the total number, seven cases, including five deaths, have been reported from Saudi Arabia.

Based on the current situation and available information, WHO encourages all Member States (MS) to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns. WHO is currently working with international experts and countries where cases have been reported to assess the situation and review recommendations for surveillance and monitoring.

All MS are reminded to promptly assess and notify WHO of any new case of infection with NCoV along with information about potential exposures that may have resulted in infection and a description of the clinical course.

NCoV
14 olgu
8 ölüm

DİRENÇ

Pnömokoklarda penisilin direnci

- Pnömokoklarda penisilin MİK değerleri değişti!

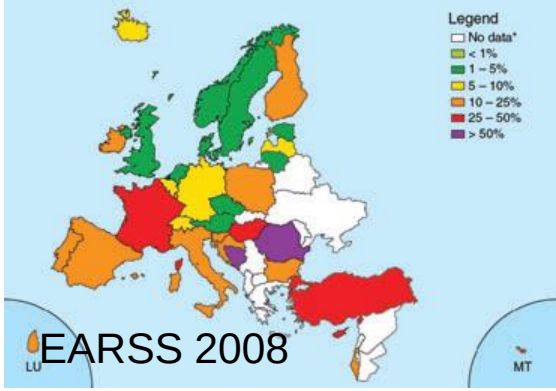
	MIK Değerleri (mg/L)		
Standart	Duyarlı	Orta Duyarlı	Dirençli
Eskiden (tüm durumlar)	≤ 0.06	0.12-1	≥ 2
2008 CLSI			
Menenjit, iv penisilin	≤ 0.06	-	≥ 0.12
Menenjit dışı, iv penisilin	≤ 2	4	≥ 8
Menenjit dışı, oral penisilin	≤ 0.06	0.12-1	≥ 2

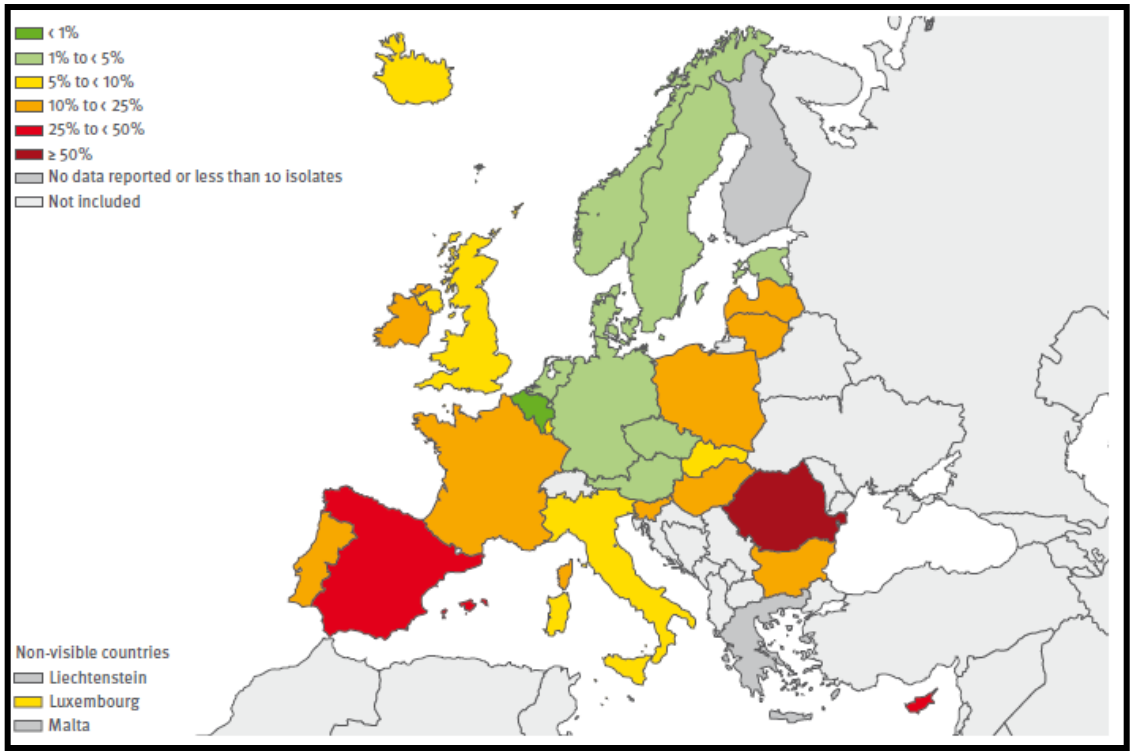
TABLE 2. PENICILLIN RESISTANCE RATES OBTAINED BY FORMER AND 2008 BREAKPOINTS FOR INTERPRETATION OF PENICILLIN RESISTANCE FOR *STREPTOCOCCUS PNEUMONIAE* AS PROPOSED BY CLINICAL AND LABORATORY STANDARDS INSTITUTE

	Meningitis (n = 15)		*Nonmeningitis* (n = 813)	
	Before 2008, n (%)	*2008*, n (%)	*Before 2008*, n (%)	*2008*, n (%)
Susceptible	10 (66.7)	10 (66.7)	525 (64.6)	803 (98.8)
Intermediate	4 (26.7)	—	238 (29.3)	6 (0.7)
Resistant	1 (6.6)	5 (33.3)	50 (6.1)	4 (0.5)

Ö Doğan et al, Microb Drug Resist 2010;16(1):39-41

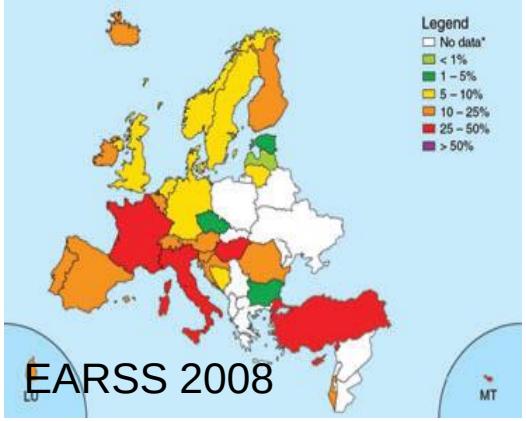
Penisiline duyarlı olmayan *S.pneumoniae* oranı, Avrupa 2011

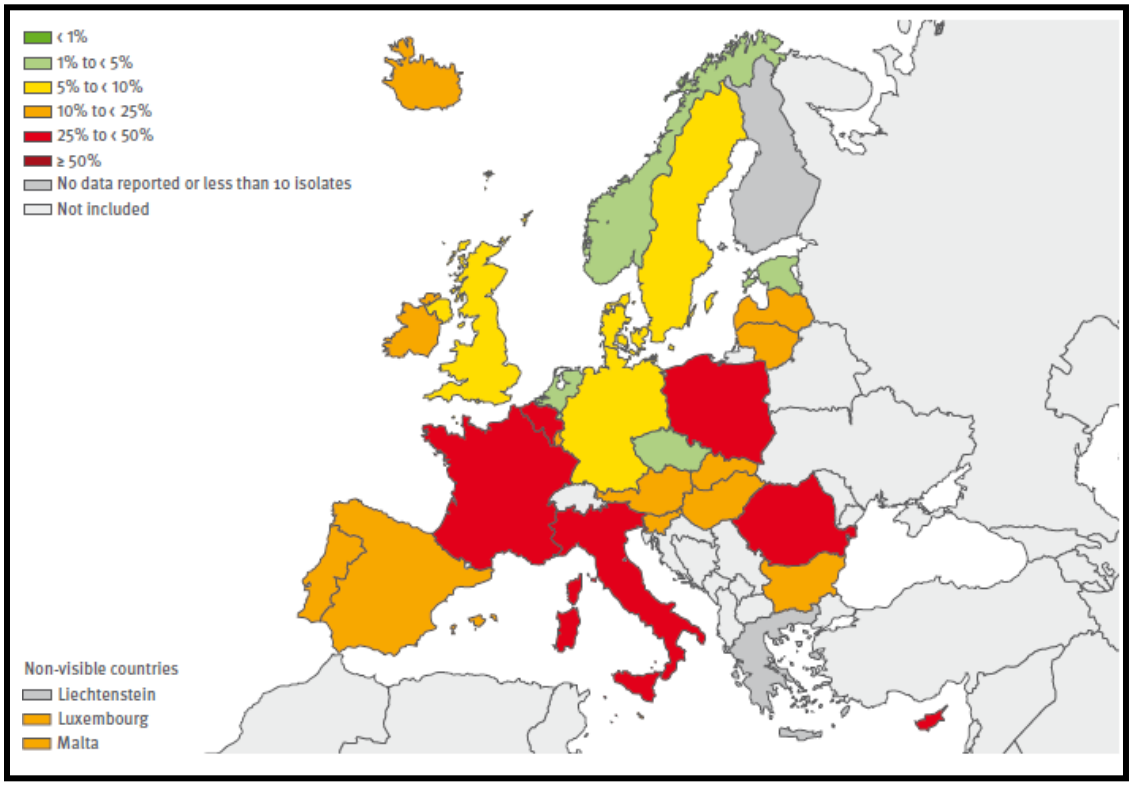


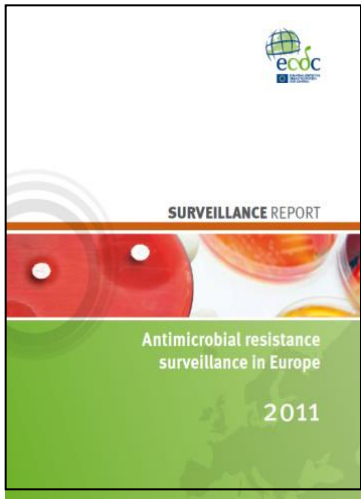


http://ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-surveillance-europe-2011.pdf

Makrolidlere duyarlı olmayan *S.pneumoniae* oranı, Avrupa 2011







SEROTİP DEĞİŞİMİ

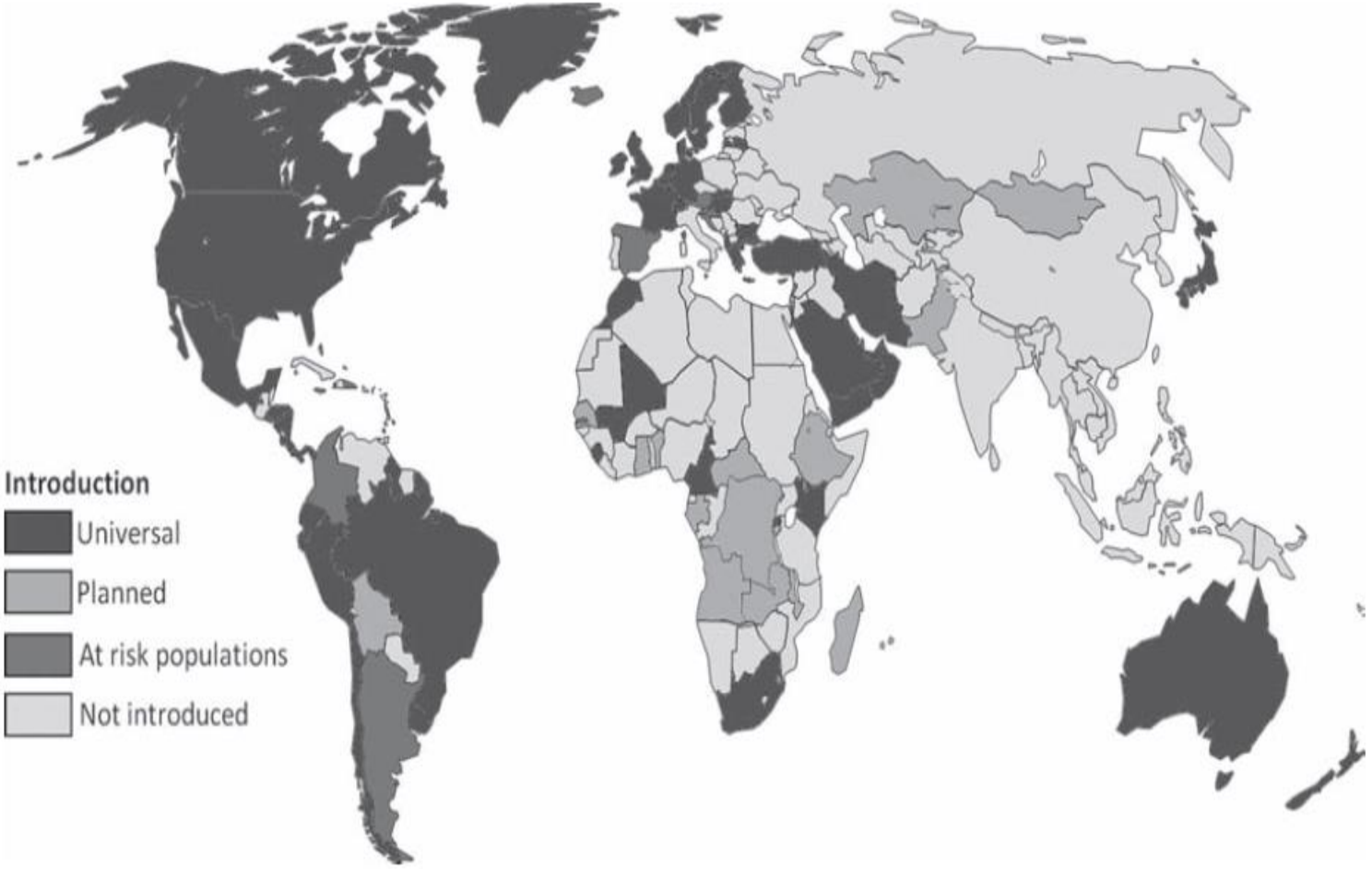
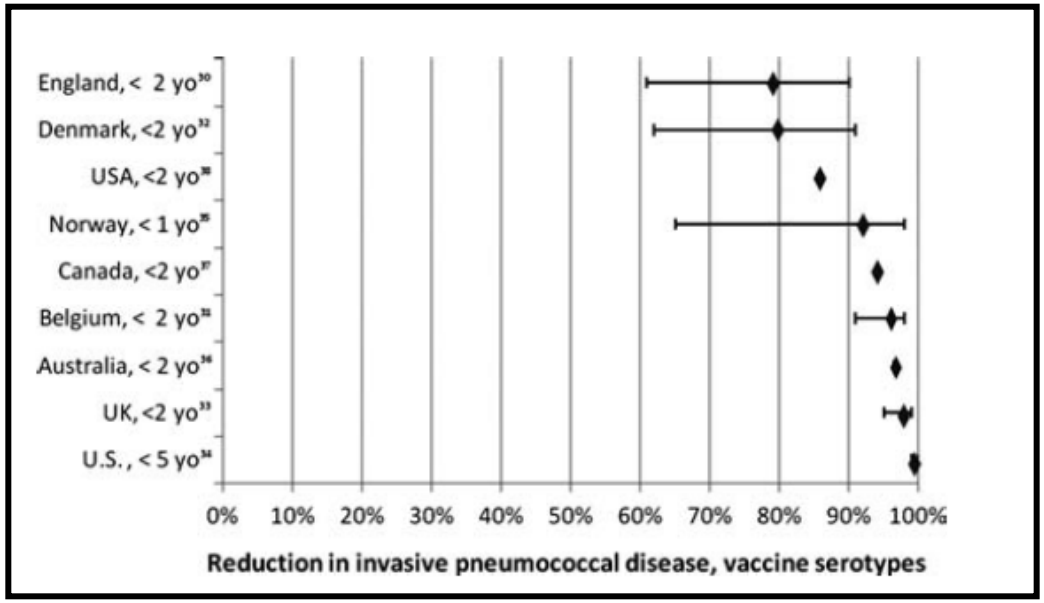
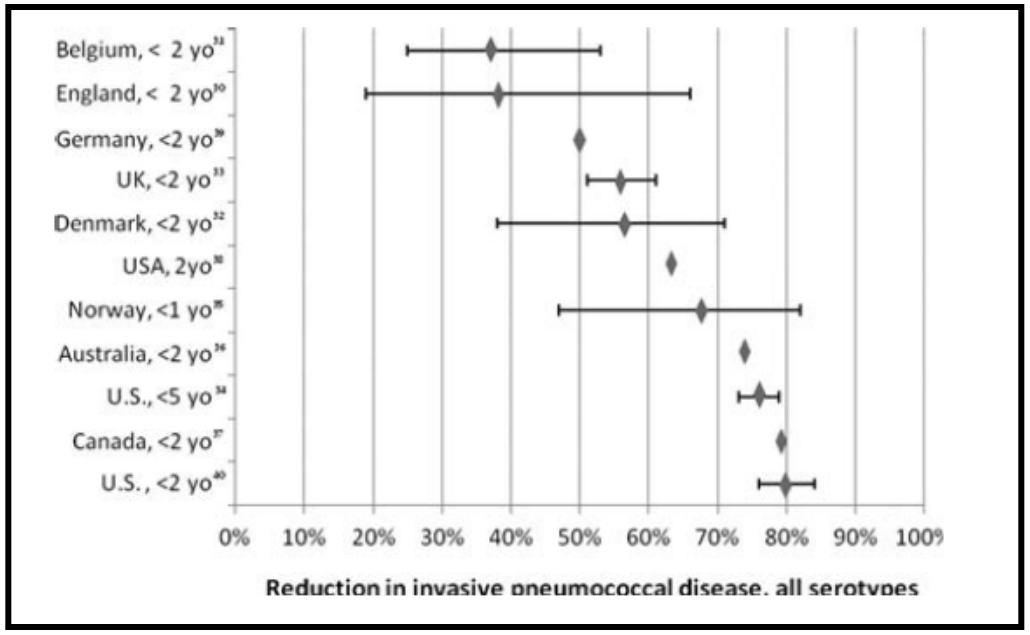


FIGURE 1. Status of introduction of pneumococcal vaccines into national immunization schedules. Adapted from IVAC.[29]



Aşı serotipleri



Tüm serotipler

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ScienceDirect

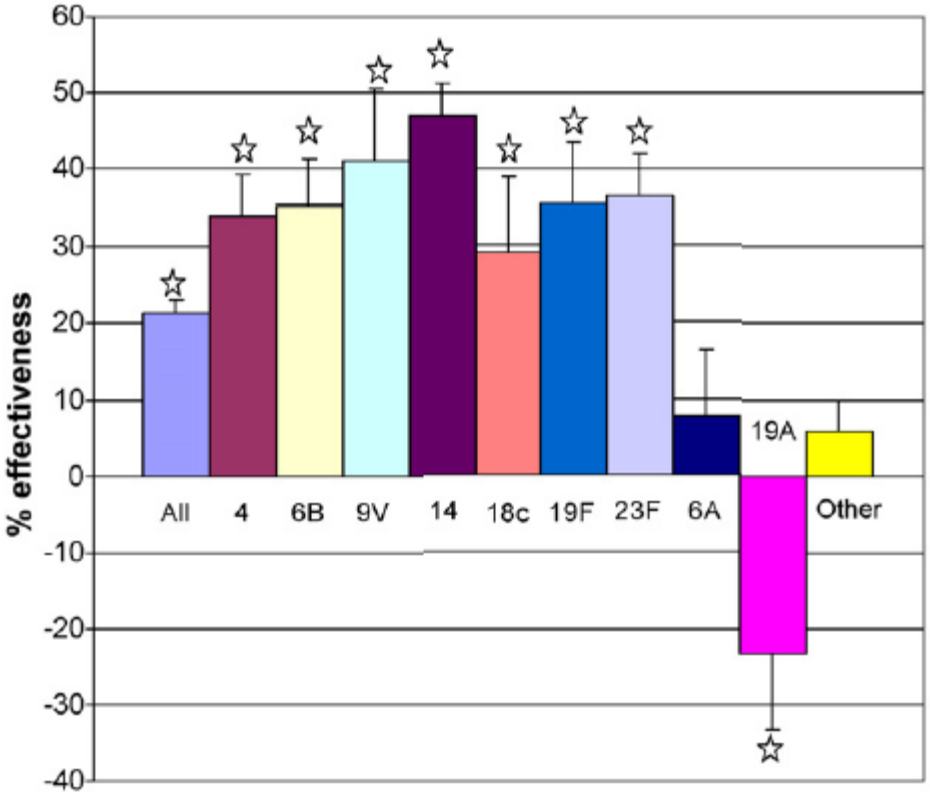
Vaccine 25 (2007) 5390–5398

Vaccine

www.elsevier.com/locate/vaccine

Herd immunity and pneumococcal conjugate vaccine: A quantitative model

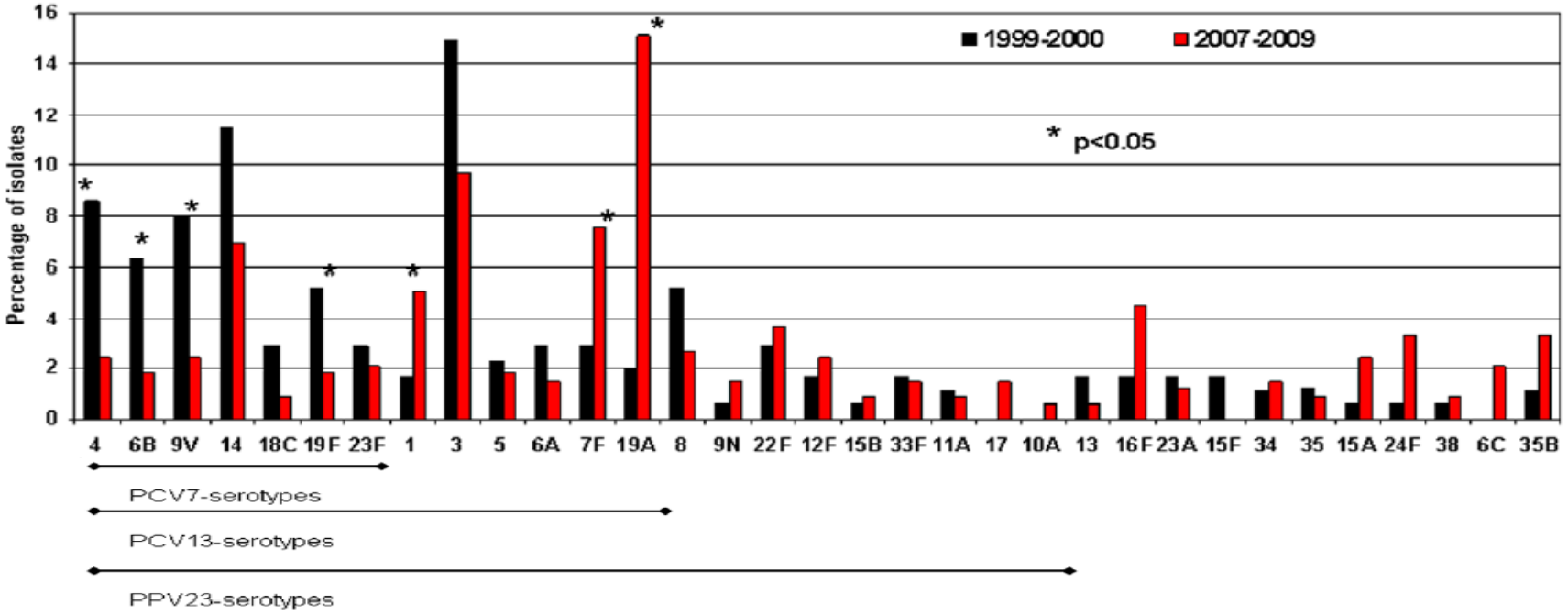
Michael Haber [a,*], Albert Barskey [b], Wendy Baughman [c], Lawrence Barker [d], Cynthia G. Whitney [e], Kate M. Shaw [d], Walter Orenstein [f], David S. Stephens [c,f]



2012;7(8):e43619 PLOS ONE

Epidemiology of Invasive Pneumococcal Disease in Older People in Spain (2007–2009): Implications for Future Vaccination Strategies

Carmen Ardanuy[1,2]*, José María Marimón[2,3], Laura Calatayud[1,2], Montserrat Giménez[2,4], Marta Alonso[2,3], Immaculada Grau[2,5], Román Pallarés[2,5], Emilio Pérez-Trallero[2,3], Josefina Liñares[1,2]



Vaccine 31 (2013) 1529–1534

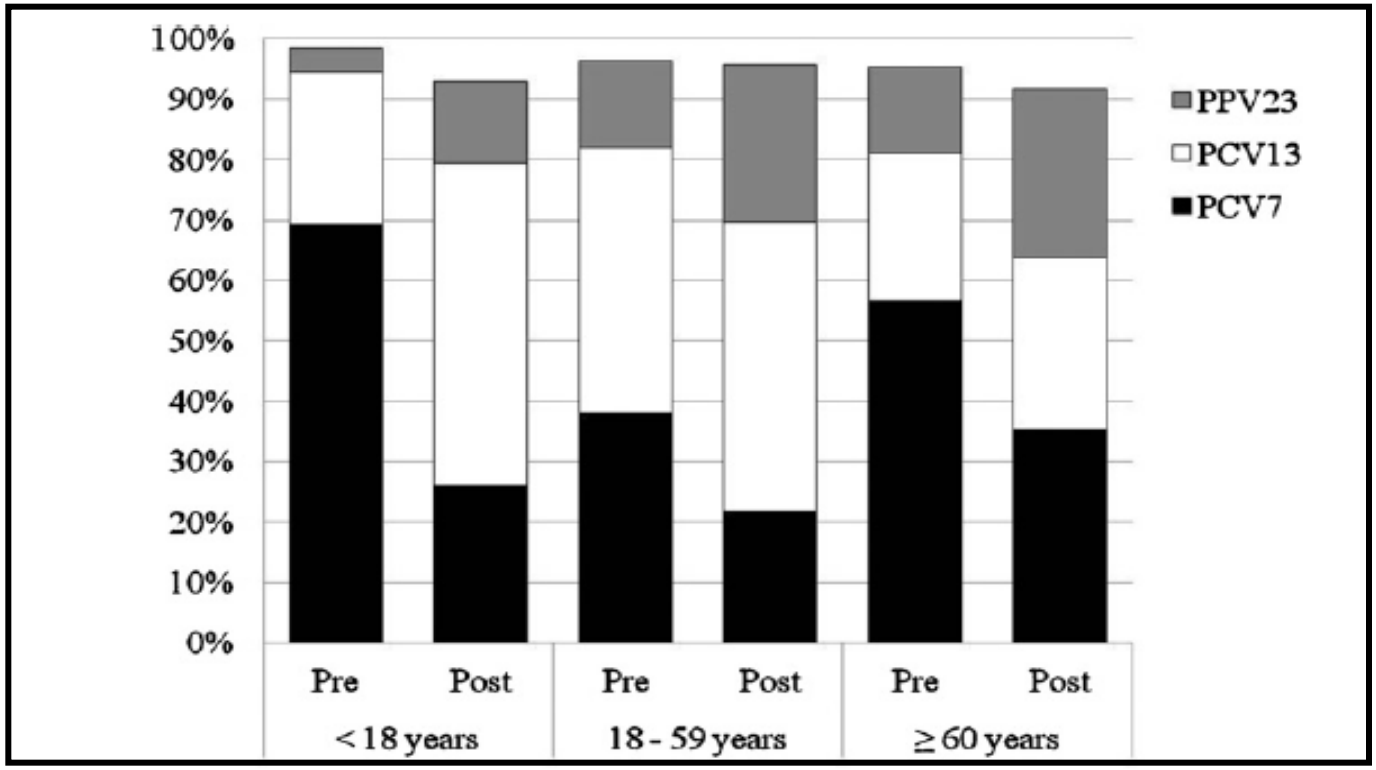
Contents lists available at SciVerse ScienceDirect

Vaccine

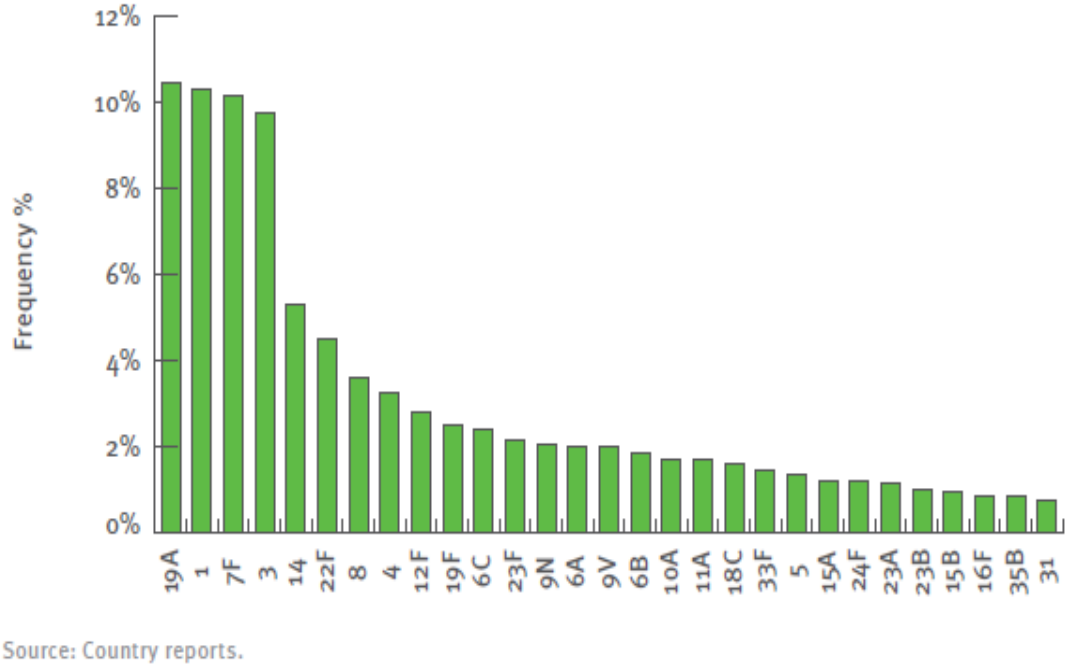
journal homepage: www.elsevier.com/locate/vaccine

Trends in serotype prevalence in invasive pneumococcal disease before and after infant pneumococcal vaccination in Belgium, 2002–2010

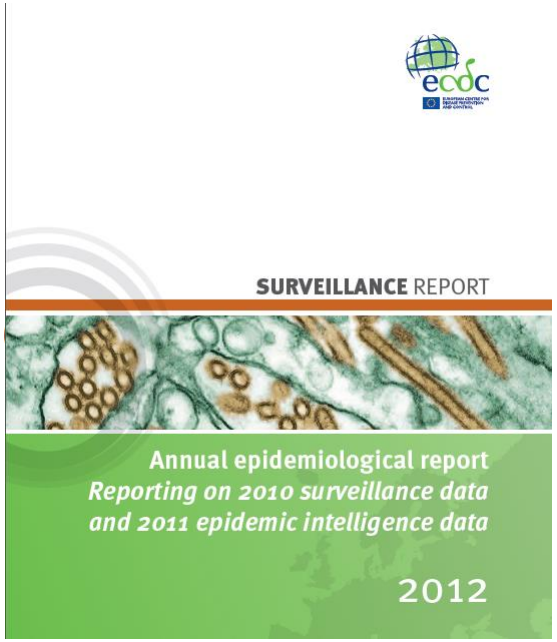
Laurens Liesenborghs[a], Jan Verhaegen[b], Willy E. Peetermans[c], Jozef Vandeven[b], Johan Flamaing[d,*]



İnvaziv pnömokokal hastalıklarda serotip dağılımı, Avrupa 2011

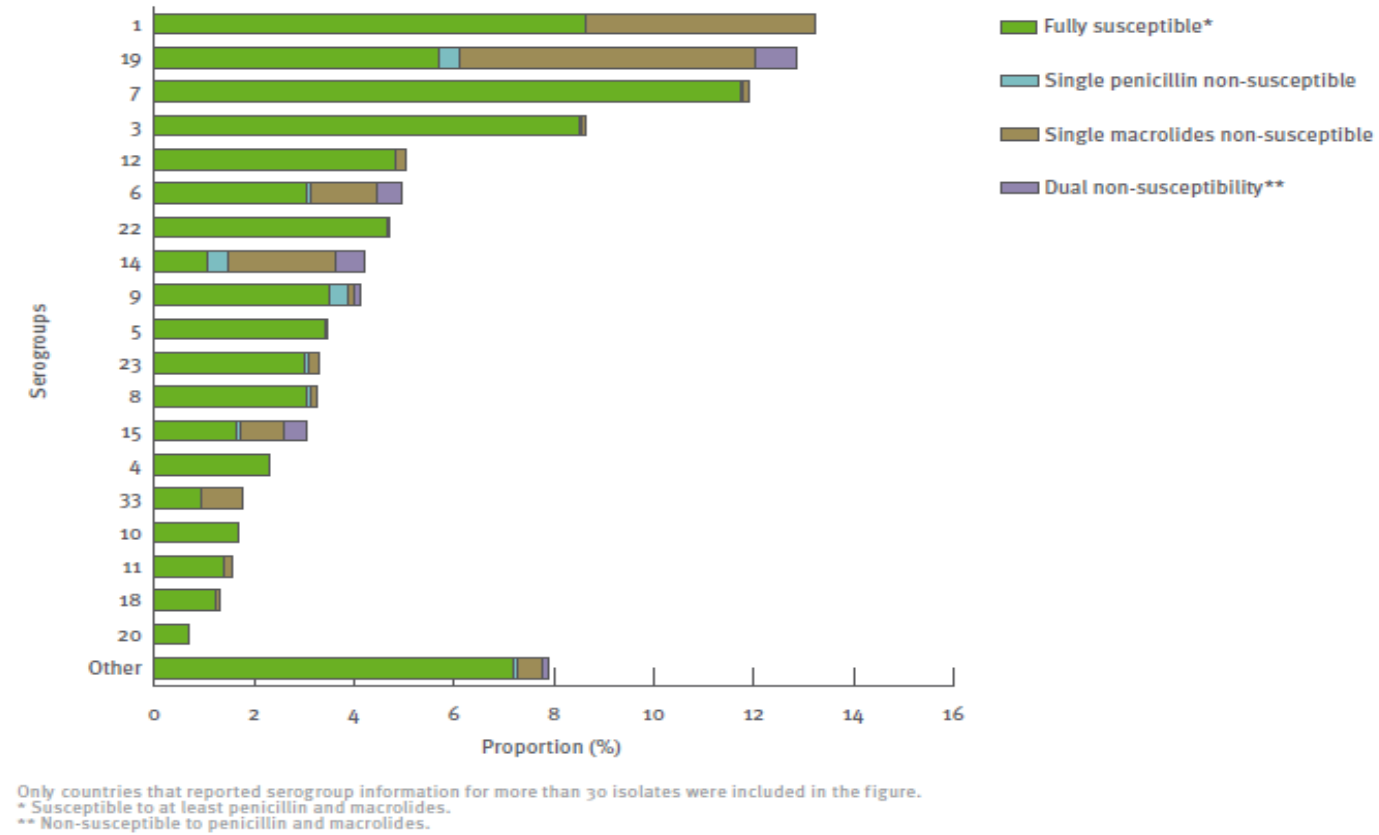


Source: Country reports.



http://www.ecdc.europa.eu/en/publications/Publications/Annual-Epidemiological-Report-2012.pdf

Serogrup ilişkili direnç profillerini, Avrupa 2011



Only countries that reported serogroup information for more than 30 isolates were included in the figure.
* Susceptible to at least penicillin and macrolides.
** Non-susceptible to penicillin and macrolides.

http://www.ecdc.europa.eu/en/publications/Publications/Annual-Epidemiological-Report-2012.pdf

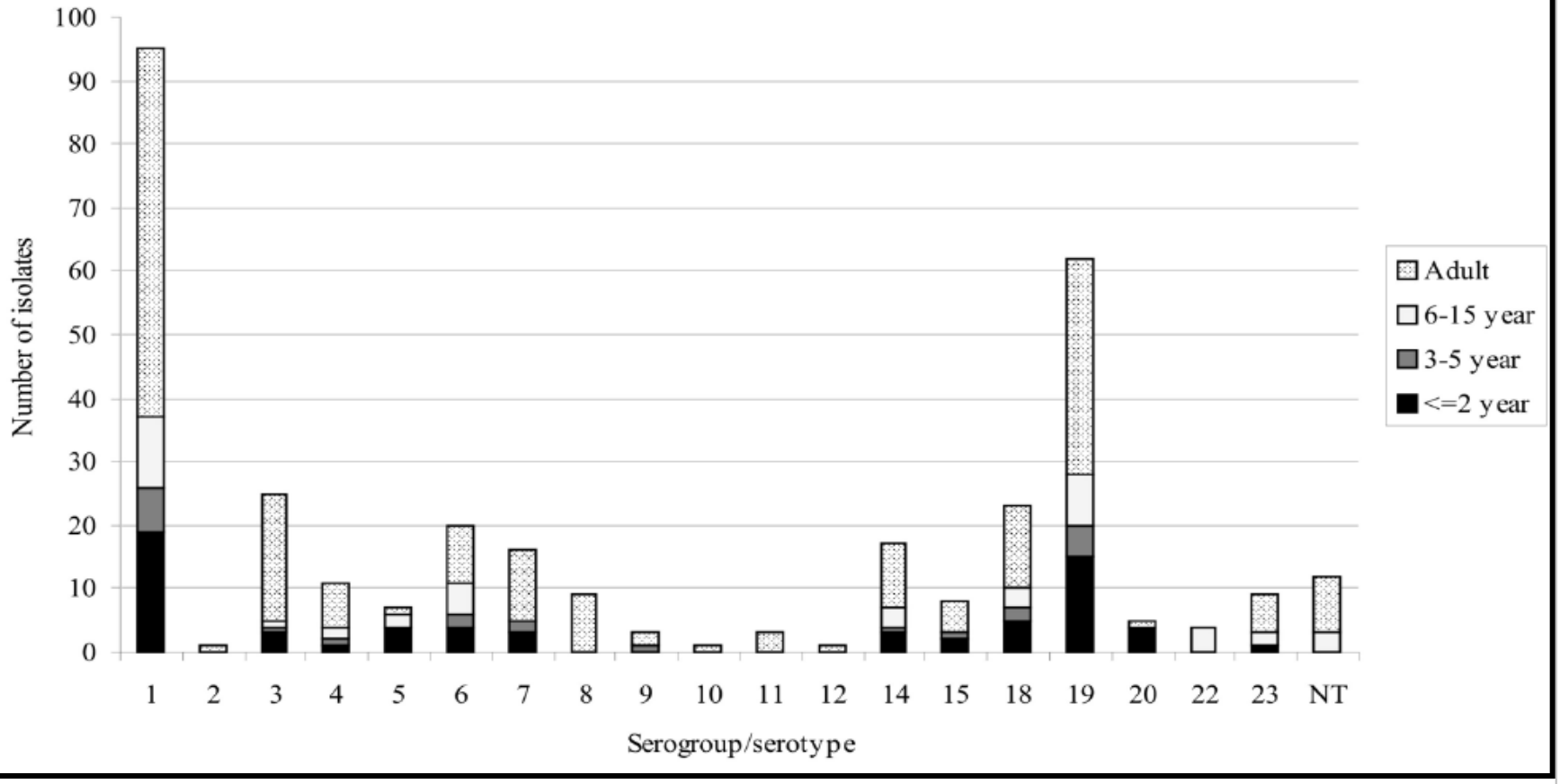
J Infect Dev Ctries 2010; 4(9):560-565.

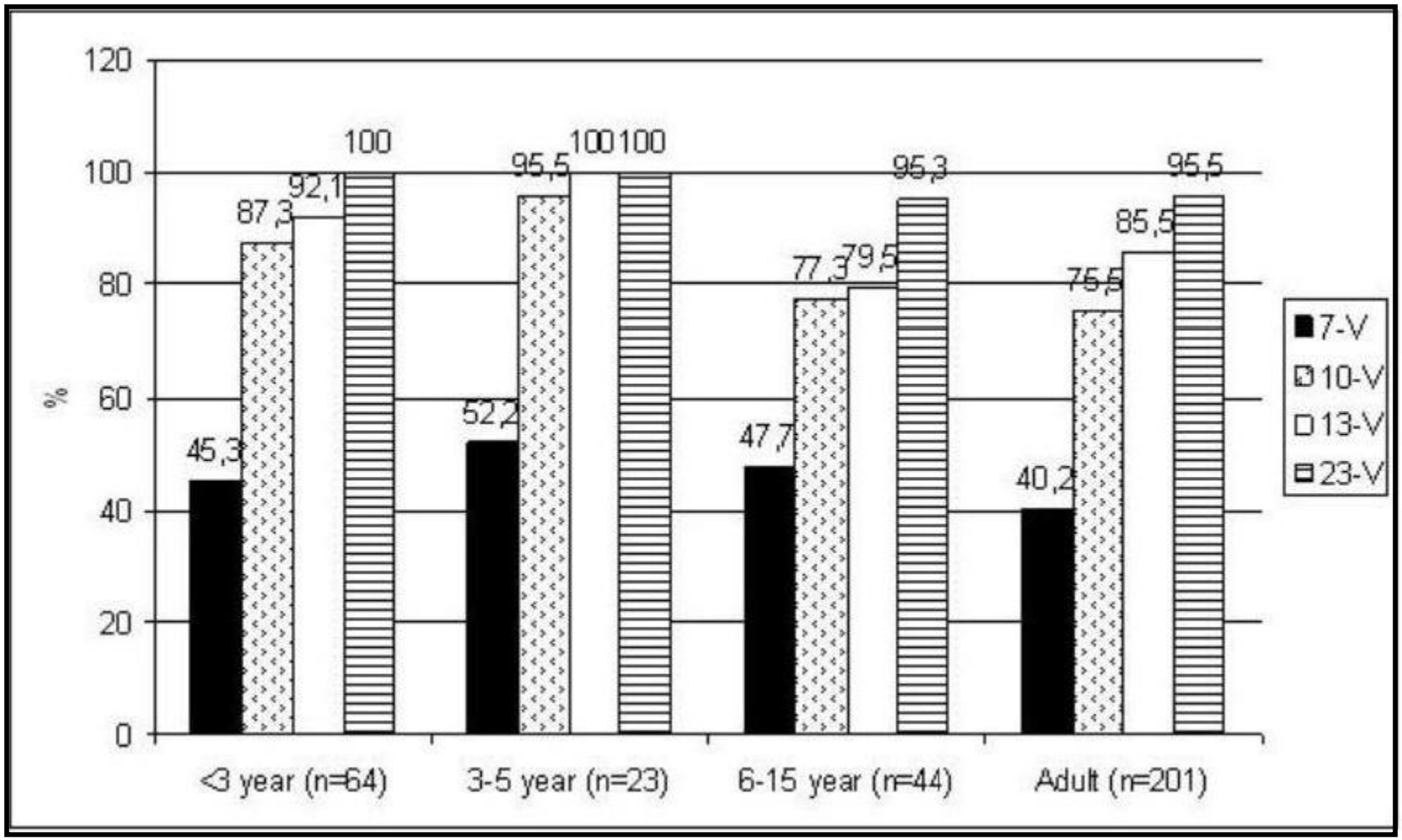
Original Article

Ten-year surveillance of invasive *Streptococcus pneumoniae* isolates in central Turkey prior to the introduction of a conjugate vaccine

Duygu Percin[1], Yasemin Ay Altintop[1], Bulent Sumerkan[1]

[1]*Department of Microbiology and Clinical Microbiology, Faculty of Medicine, Erciyes University, 38039-Kayseri/Turkey*




120
100
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45,3
87,3
92,1
100
52,2
95,5
100
100
47,7
77,3
79,5
95,3
40,2
75,5
85,5
95,5
<3 year (n=64)
3-5 year (n=23)
6-15 year (n=44)
Adult (n=201)
7-V
10-V
13-V
23-V

SKORLAR
TEDAVİ

IDSA/ATS 2007 criteria	Pneumonia Severity Index[a]
Major criteria (any one of) Invasive mechanical ventilation Septic shock with the need for vasopressors Minor criteria (3 or more) Respiratory rate ≥30 breaths/min PaO_2FiO_2 ≤250 Multilobar infiltrates Confusion/disorientation Uremia (BUN level ≥20 mg/dL) Leukopenia (WBC count <4,000 cells/mm^3) Thrombocytopenia (<100,000 cells/mm^3) Hypothermia (temperature <36°C) Hypotension requiring aggressive fluid resuscitation	Age (1 point/year, −10 if female) Nursing home resident (10 points) Neoplastic disease (30 points) Liver disease (20 points) Congestive heart failure (10 points) Cerebrovascular disease (10 points) Renal disease (10 points) Altered mental status (20 points) Pulse ≥125/min (10 points) Respiratory rate >30/min (20 points) Systolic blood pressure <90 mmHg (20 points) Temperature <35 or ≥40°C (15 points) Arterial pH <7.35 (30 points) Urea ≥30 mg/dl (20 points) Sodium <130 mmol/L (20 points) Glucose ≥250 mg/dl (10 points) Haemtocrit <30% (10 points) PaO_2 <60 mmHg (10 points) Pleural effusion (10 points)
ATS criteria 2001	CURB65/CRB65
Major criteria (any one of) Invasive mechanical ventilation Septic shock with the need for vasopressors Minor criteria (≥2) Systolic blood pressure <90 mmHg Multilobar chest X-ray changes PaO_2FiO_2 ≤250	Confusion Urea >7 mmol/L (excluded in CRB65) Respiratory rate ≥30/min Systolic BP <90 mmHg or diastolic BP ≤60 mmHg Age ≥65 years Note: ≥3 of these criteria is regarded as "severe"

Chalmers JD, et al. Intensive Care Med 2011;37:1409-20

Tablo 6. Yoğun Bakım Ünitesine Yatırılma Ölçütleri (15) *

Major

- İnvazif mekanik ventilasyon gereği
- Vazopressör gerektiren septik şok

Minör

- Solunum sayısı ≥30/dak.
- PaO_2/FIO_2 ≤250
- Akciğer radyogramında multilober infiltratlar
- Konfüzyon/dezoryantasyon
- Üremi (BUN ≥20 mg/dL)
- Lökopeni (Lökosit <4000 /mm^3)
- Trombositopeni (Trombosit <100 000 /mm^3)
- Hipotermi (<36°C)
- Yoğun sıvı yüklemesi gerektiren hipotansiyon

* Tek major veya en az üç minör ölçütün var olması koşulu aranmalıdır.

Tablo 4. Pnömoni Ağırlık Skoru (PSI: Pneumonia Severity Index) (13)

Ölçüt	Puan	Ölçüt	Puan
Yaş		Laboratuvar Bulguları	
Erkek	Yıl	BUN ≥30mg/dl	20
Kadın	Yıl-10	Na <130mmol/L	20
		Glukoz ≥250mg/dl	10
Huzurevinde kalmak	10	Htc<%30	10
Komorbidite		Akciğer Radyogramı	
Tümör varlığı	30	Plevral efüzyon	10
KC hastalığı	20		
KKY	10	Oksijenasyon	
KVH-SVH	10	Arter pH<7.35	30
Böbrek hastalığı	10	PaO_2 <60mmHg	10
Vital Bulgular		SaO_2 <%90	10
Mental bozukluk	20		
SS≥30/dk	20		
Sistolik TA<90 mmHg	20		
Isı<35°C veya ≥40°C	15		
Kalp hızı ≥125/dk.	10		

ATS criteria 2001

Major criteria (any one of)
- Invasive mechanical ventilation
- Septic shock with the need for vasopressors

Minor criteria (≥2)
- Systolic blood pressure <90 mmHg
- Multilobar chest X-ray changes
- PaO_2FiO_2 ≤250

Tablo 3. CURB-65 Skorlaması*(51)

1. Confusion (Konfüzyon)
2. Urea (Üre) >42.8 mg/dL, (BUN ölçülüyorsa >20 mg/dL [7 mmol/l])
3. Respiratory rate (Solunum sayısı) ≥30/dk.
4. Blood pressure (Kan basıncı) (Sistolik <90 mmHg veya Diyastolik≤60 mmHg)
5. Yaş ≥ 65 yıl

* Her bir ölçütün varlığı 1 puan olarak hesaplanır

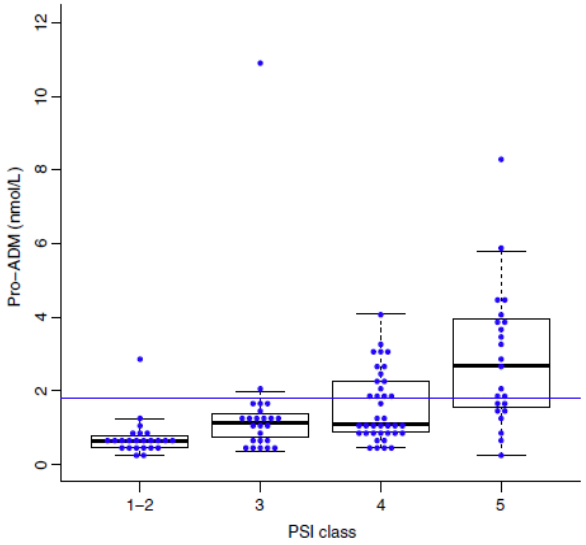
Chalmers JD, et al. Intensive Care Med 2011;37:1409-20

TGP' de etkenlerin gruplara göre dağılımı

Grup I	Grup II	Grup III
Ayakta Tedavi	Klinikte Tedavi	YBÜ'nde Tedavi
Hastaneye yatış ölçütleri yok CURB-65 <2 (PSI I-III) A) Değiştirici faktör (-) B) Değiştirici faktör (+)	Yoğun bakıma yatış ölçütleri yok CURB-65 ≥ 2 (PSI IV-V)	Yoğun bakıma yatış ölçütleri var A) *Pseudomonas* riski (-) B) *Pseudomonas* riski (+)
Grup IA •*S.pneumoniae* •*M.pneumoniae* •*C.pneumoniae* •*H.influenzae* •Viruslar •Diğerleri **Grup IB** •*S.pneumoniae* •*M.pneumoniae* •*C.pneumoniae* •Mikst •*H.influenzae* •Enterik Gram-negatifler •Viruslar	**Grup II** •*S.pneumoniae* •*H.influenzae* •*M.pneumoniae* •*C.pneumoniae* •Karma infeksiyon* •Enterik Gram-negatifler •Anaeroplar •Viruslar •*Legionella* spp. •Diğerleri • *S.aureus*	**Grup IIIA** •*S.pneumoniae* •*Legionella* spp. •*H.influenzae* •Enterik Gram-negatifler •*S.aureus* •*M.pneumoniae* •Viruslar **Grup IIIB** • *P.aeruginosa* + Grup A' daki patojenler

Biyobelirteçler

- CRP
- Prokalsitonin
- Proadrenomedüllin
- MR-pro-ANP
- MR-ADM
- TREM-1
- …



Courtais C, et al. Am J Emerg Med 2013;31:215

- Pnömoni ağırlığının, mortalite riskinin belirlenmesinde kullanılabilir (yeterli klinik çalışma yok)

Clin Microbiol Infect 2011;17(suppl 6): E1-E59

ORIGINAL CONTRIBUTION

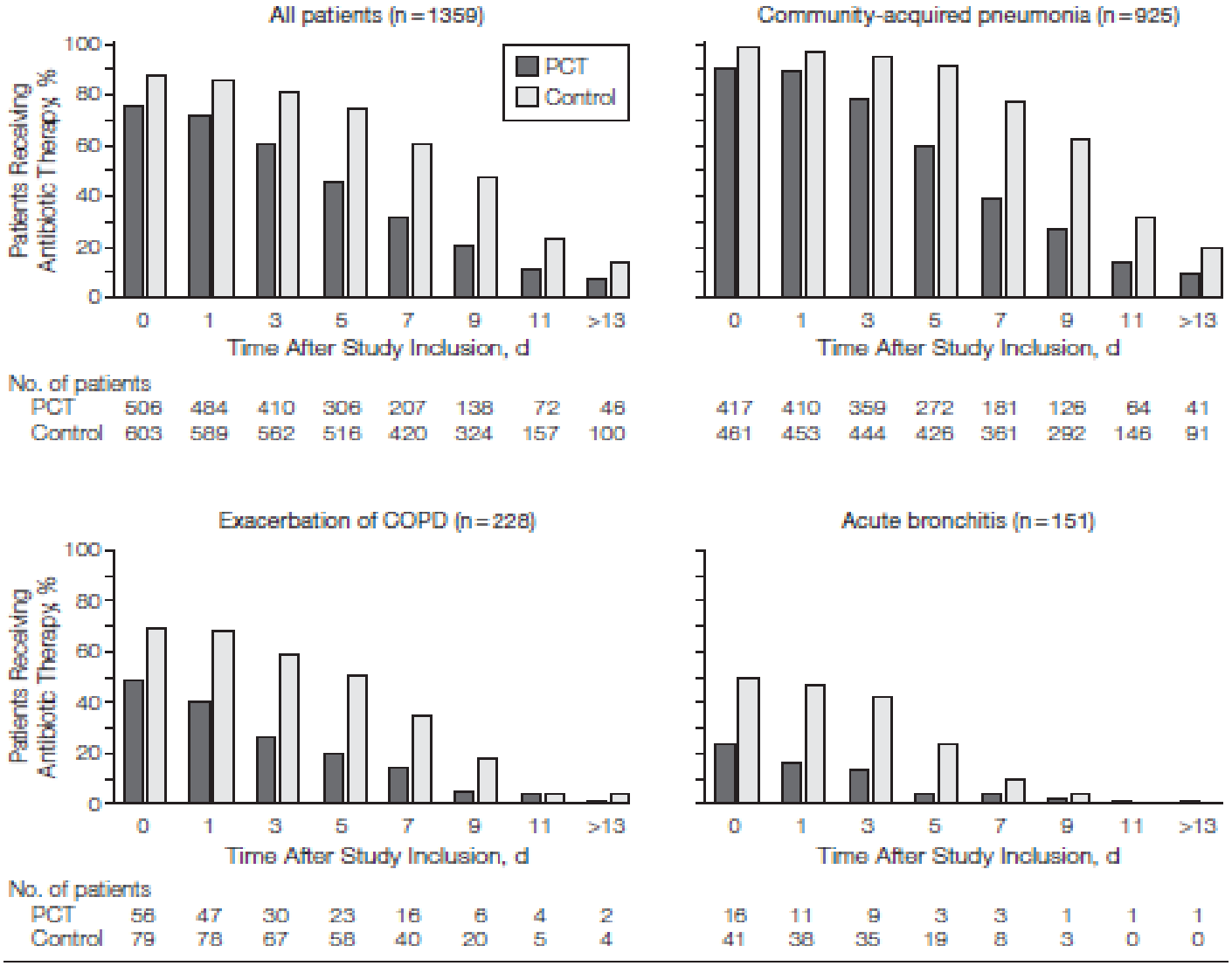
JAMA. 2009;302(10):1059-1066

Effect of Procalcitonin-Based Guidelines vs Standard Guidelines on Antibiotic Use in Lower Respiratory Tract Infections

The ProHOSP Randomized Controlled Trial

- Prokalsitonin algoritmi kullanılarak hasta yönetimi antibiyotik kullanımını azaltıyor mu?
- İsviçre, 6 üçüncü basamak hastanesi, 1825 hasta
- Çok merkezli, randomize kontrollü, “noninferiority” çalışması
- Ekim 2006- Mart 2008 çoğu ciddi ASYE 1359 hasta
- Prokalsitonin temelli yönetim (671 hasta) & Rehber temelli yönetim (688 hasta)
- TKP’de Antibiyotik kullanılan gün sayısı (7.2 & 10.7 gün),
  Antibiyotik reçete edilme oranı (%90.7 & 99.1),
  Antibiyotik yan etki oranı (%23.5 & 33.1)’nda azalma

Figure 2. Antibiotic Exposure in Patients Receiving Antibiotic Therapy

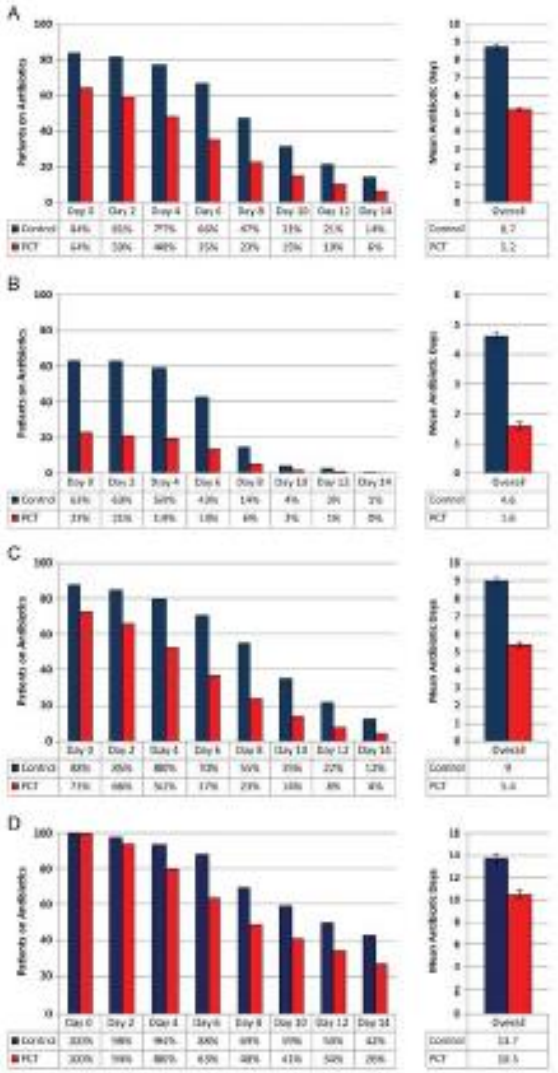


Clin Infect Dis.2012;55(5):651-62

MAJOR ARTICLE

Procalcitonin to Guide Initiation and Duration of Antibiotic Treatment in Acute Respiratory Infections: An Individual Patient Data Meta-Analysis

Philipp Schuetz,[1,6,a] Matthias Briel,[3,7,a] Mirjam Christ-Crain,[2] Daiana Stolz,[4] Lila Bouadma,[8] Michel Wolff,[8] Charles-Edouard Luyt,[9] Jean Chastre,[9] Florence Tubach,[10,11,12,13] Kristina B. Kristoffersen,[14] Long Wei,[15] Olaf Burkhardt,[16] Tobias Welte,[16] Stefan Schroeder,[17] Vandack Nobre,[5] Michael Tamm,[4] Neera Bhatnagar,[7] Heiner C. Bucher,[3] and Beat Mueller[6]

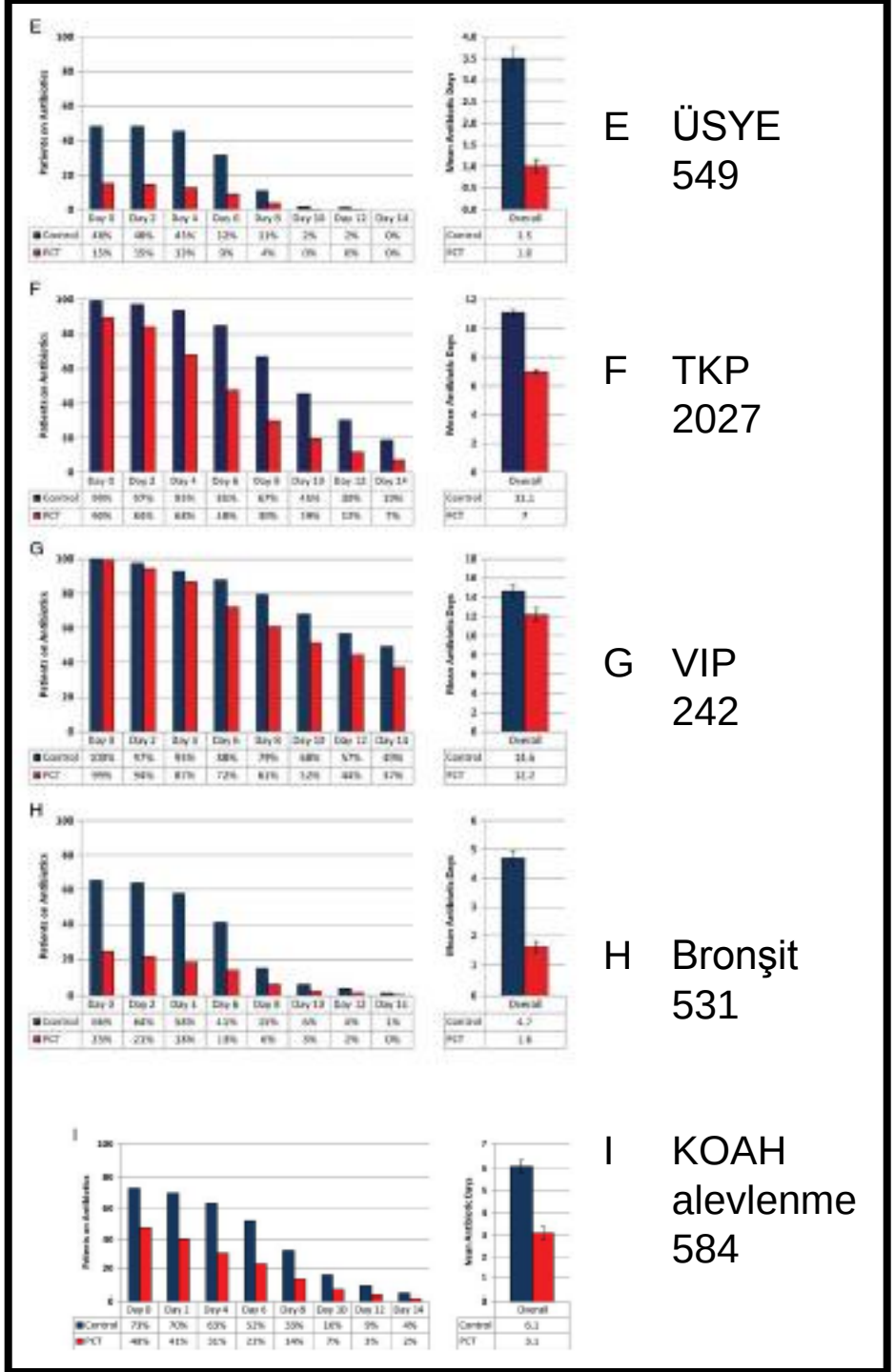


A Tüm hastalar 4221

B 1.basamak 1008

C Acil Servis 2605

D YB 598



E ÜSYE 549

F TKP 2027

G VIP 242

H Bronşit 531

I KOAH alevlenme 584

ELSEVIER

Médecine et maladies infectieuses xxx (2013) xxx–xxx

Médecine et maladies infectieuses

How to reduce antibiotic consumption for community-acquired pneumonia?

E. Montassier [a,*,b], N. Goffinet [a], G. Potel [a,b], E. Batard [a,b]

Study	Number of patients included	Initial prescription of antibiotherapy	Duration of antibiotherapy	Rate of clinical cure
Schuetz et al.	925	90% PCT group and 99% control group ($P<0.001$)	7.2 days (interquartile: 4–10) PCT group and 10.7 days (interquartile: 8–12) control group ($P<0.001$)	At 1 month: composite clinical criterion of effectiveness: not inferior between both groups (−4.1%; 95% CI −9.1% to 0.9)
Christ-Crain et al.	87	90.5% PCT group and 100% control group ($P=0.03$).	All lower tract respiratory infections: 10.9 days (± 3.6) PCT group and 12.8 days (± 5.5) control group ($P=0.03$)	At 1 month: 90% PCT group and 92% control group ($P=0.56$)
Christ-Crain et al.	302	85% PCT group and 99% control group ($P<0.0001$)	5.8 ± 5.3 days PCT group and 12.9 ± 6.5 days control group ($P<0.001$)	At 1 month: 84% PCT group and 82% control group ($P=0.65$)
Long et al.	156	84.4% PCT group and 97.5% control group ($P=0.004$)	5 days (interquartile: 3–6) PCT group and 7 days (interquartile: 5–9) control group ($P<0.001$)	At 1 month: no difference between both groups
Kristoffersen et al.	97	Not evaluated	5.1 days (95% CI− 4.4 to 6.0%) PCT group and 6.8 days (95% CI− 5.9 to 7.7%) control group ($P=0.007$)	Not evaluated

CHEST

Original Research

CHEST 2007; 131:1865–1869

COMMUNITY-ACQUIRED PNEUMONIA

Misdiagnosis of Community-Acquired Pneumonia and Inappropriate Utilization of Antibiotics*

Side Effects of the 4-h Antibiotic Administration Rule

Manreet Kanwar, MD; Navkiranjot Brar, MD; Riad Khatib, MD; and Mohamad G. Fakih, MD, MPH

Variables	2003 (n = 199)	2005 (n = 319)	p Value
Antibiotics given within 4 h	107 (53.8)	210 (65.8)	0.007
Transfer to ICU	20 (10.1)	21 (6.6)	0.18
Average LOS, d	6.28 ± 0.43	5.67 ± 0.23	0.07
Mortality	5 (2.5)	12 (3.8)	0.61

Table 2—*Antibiotic Administration and Outcomes of Those Admitted to the Hospital With CAP During Both Study Periods

- “Door-to-needle time”
- Tedavi süresinde saat kısıtlaması kalktı
- Tanı konar konmaz başlanmalı
- Mümkün olan en kısa sürede başlanmalı
- Hemşireler de bu konuda eğitimli, bilgili olmalı

“American College of Emergency Physicians”

Nazarian DJ, Clinical policy: critical issues in themanagement of adult patients presenting to the emergency department with community-acquired pneumonia. Ann Emerg Med 2009;54:704–31

- **Acil serviste iken** başlanmalı

IDSA/ATS 2007

- Aspirasyon pnömonisi ile ilgili öneri getirildi
  ERS ESMID 2011 rehberi

- Tedavi süresi 8 günü geçmemeli (C2), *P.aeruginosa*’da 14 gün olabilir
  ERS ESMID 2011 rehberi

Aspirasyon pnömonisinde antibiyotik önerileri ERS-ESCMID 2011 Rehberi

Evde yaşayan, servise yatırılan hasta

Oral / IV
Beta-laktam- beta-laktamaz inh.
ya da
Klindamisin
ya da
IV sefalosporin + oral metronidazol
ya da
Moksifloksasin

Bakım evinde yaşayan ya da YBÜ' ne yatırılan hasta

Sefalosporin + klindamisin
ya da
Sefalosporin + metronidazol

Clin Microbiol Infect 2011;17(suppl 6): E1-E59

YENİ TEDAVİ SEÇENEKLERİ

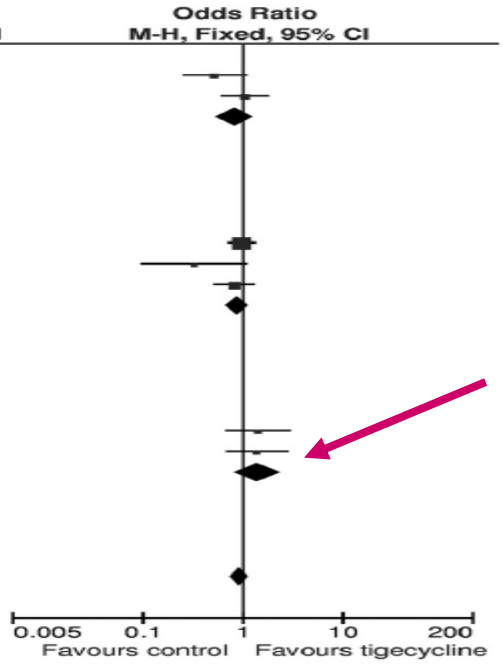
ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, Mar. 2011, p. 1162–1172 Vol. 55, No. 3

Systematic Review and Meta-Analysis of the Effectiveness and Safety of Tigecycline for Treatment of Infectious Disease▽

Yun Cai,[1] Rui Wang,[1]* Beibei Liang,[1] Nan Bai,[1] and Youning Liu[2]

Tedavi başarısı

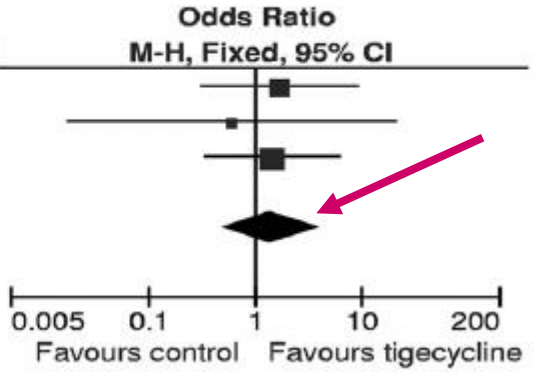
Study or Subgroup	Events	Total	Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
1.1.1 cSSSI						
Breedt 2005	200	223	201	213	10.3%	0.52 [0.25, 1.07]
Sacchidanand 2005	165	199	163	198	13.6%	1.04 [0.62, 1.75]
Subtotal (95% CI)		422		411	23.9%	0.82 [0.54, 1.24]
Total events	365		364			
Heterogeneity: Chi² = 2.35, df = 1 (P = 0.13); I² = 57%						
Test for overall effect: Z = 0.95 (P = 0.34)						
1.1.2 cIAI						
Babinchak 2005	594	685	607	697	38.8%	0.97 [0.71, 1.32]
Chen 2010	67	77	83	87	4.9%	0.32 [0.10, 1.08]
Towfigh 2010	133	189	139	187	20.1%	0.82 [0.52, 1.29]
Subtotal (95% CI)		951		971	63.9%	0.87 [0.68, 1.12]
Total events	794		829			
Heterogeneity: Chi² = 3.12, df = 2 (P = 0.21); I² = 36%						
Test for overall effect: Z = 1.08 (P = 0.28)						
1.1.3 CAP						
Bergallo 2009	125	138	136	156	5.8%	1.41 [0.68, 2.96]
Tanaseanu 2009	128	144	116	136	6.4%	1.38 [0.68, 2.79]
Subtotal (95% CI)		282		292	12.3%	1.40 [0.84, 2.32]
Total events	253		252			
Heterogeneity: Chi² = 0.00, df = 1 (P = 0.96); I² = 0%						
Test for overall effect: Z = 1.28 (P = 0.20)						
Total (95% CI)		1655		1674	100.0%	0.92 [0.76, 1.12]
Total events	1412		1445			
Heterogeneity: Chi² = 8.44, df = 6 (P = 0.21); I² = 29%						
Test for overall effect: Z = 0.80 (P = 0.42)						
Test for subgroup differences: Not applicable						



S.pneumoniae eradikasyonu

Study or Subgroup	Tigecycline Events	Tigecycline Total	Control Events	Control Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Bergallo 2009	39	41	58	63	36.9%	1.68 [0.31, 9.10]
Chen 2010	4	5	2	2	13.8%	0.60 [0.02, 20.98]
Tanaseanu 2009	46	50	32	36	49.3%	1.44 [0.33, 6.17]
Total (95% CI)		**96**		**101**	**100.0%**	**1.41 [0.50, 3.99]**
Total events	89		92			

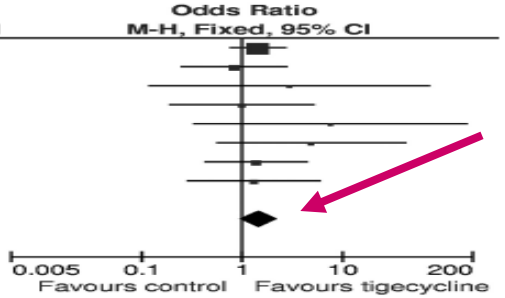
Heterogeneity: Chi² = 0.26, df = 2 (P = 0.88); I² = 0%
Test for overall effect: Z = 0.65 (P = 0.52)



Tüm nedenli mortalite

Study or Subgroup	Events	Total	Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Babinchak 2005	24	817	17	825	47.1%	1.44 [0.77, 2.70]
Bergallo 2009	5	208	6	210	16.7%	0.84 [0.25, 2.79]
Breedt 2005	1	274	0	269	1.4%	2.96 [0.12, 72.89]
Florescu MRSA 2008	6	117	2	39	8.2%	1.00 [0.19, 5.17]
Florescu VRE 2008	5	11	0	4	1.1%	7.62 [0.33, 175.01]
Sacchidanand 2005	5	292	1	281	2.9%	4.88 [0.57, 42.02]
Tanaseanu 2009	7	216	5	212	14.0%	1.39 [0.43, 4.44]
Towfigh 2010	4	236	3	231	8.6%	1.31 [0.29, 5.92]
Total (95% CI)		**2171**		**2071**	**100.0%**	**1.47 [0.96, 2.27]**
Total events	57		34			

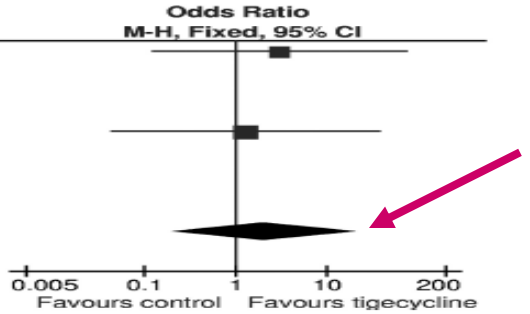
Heterogeneity: Chi² = 3.52, df = 7 (P = 0.83); I² = 0%



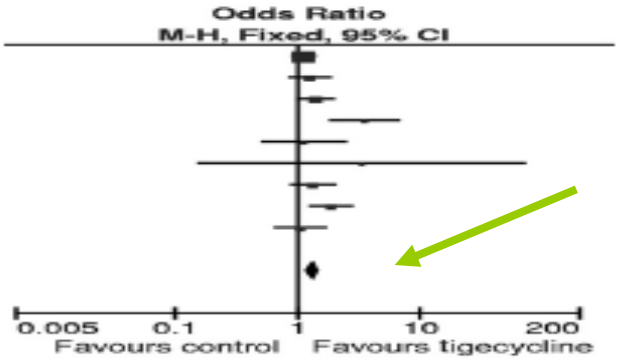
Olası ilaç ilişkili mortalite

Study or Subgroup	Events	Total	Events	Total	Weight	Odds Ratio M-H, Fixed, 95% CI
Babinchak 2005	1	817	0	825	44.6%	3.03 [0.12, 74.56]
Bergallo 2009	0	208	0	210		Not estimable
Breedt 2005	0	274	0	269		Not estimable
Florescu MRSA 2008	0	117	0	39		Not estimable
Florescu VRE 2008	1	11	0	4	55.4%	1.29 [0.04, 37.98]
Sacchidanand 2005	0	292	0	281		Not estimable
Tanaseanu 2009	0	216	0	212		Not estimable
Towfigh 2010	0	236	0	231		Not estimable
Total (95% CI)		**2171**		**2071**	**100.0%**	**2.06 [0.20, 20.85]**
Total events	2		0			

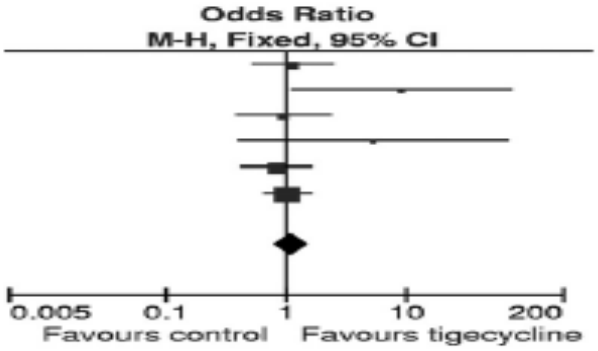
Heterogeneity: Chi² = 0.13, df = 1 (P = 0.72); I² = 0%
Test for overall effect: Z = 0.61 (P = 0.54)



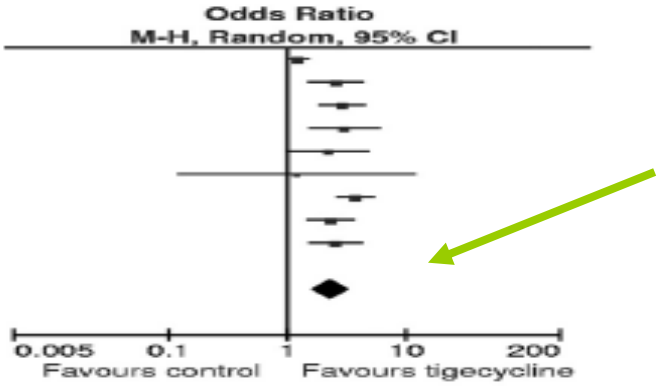
A Total adverse effect



B Serious adverse events



C Digestive system



Clinical Infectious Diseases 2010; 51(12):1395–1405

MAJOR ARTICLE

Integrated Analysis of FOCUS 1 and FOCUS 2: Randomized, Doubled-Blinded, Multicenter Phase 3 Trials of the Efficacy and Safety of Ceftaroline Fosamil versus Ceftriaxone in Patients with Community-Acquired Pneumonia

Thomas M. File, Jr,[1,2] Donald E. Low,[5,6] Paul B. Eckburg,[3] George H. Talbot,[4] H. David Friedland,[3] Jon Lee,[3] Lily Llorens,[3] Ian Critchley,[3] and Dirk Thye[3]

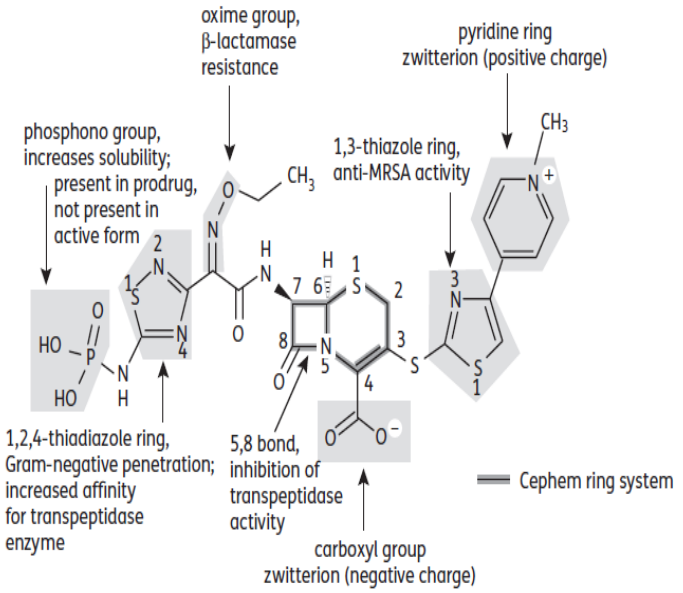


Table 1. *In vitro* activity of ceftaroline against Gram-positive and Gram-negative organisms[26,28]

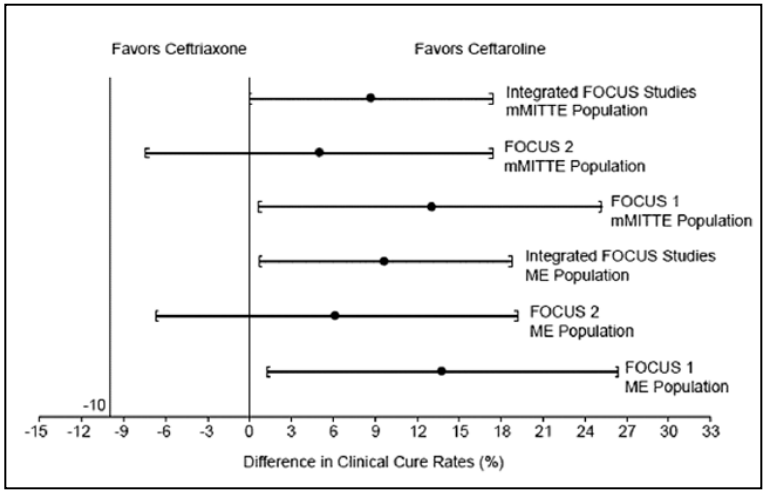
Gram-positive organisms	Gram-negative organisms
Staphylococcus aureus	*Enterobacter cloacae*
MRSA	*Citrobacter freundii*
MSSA	ESBL-negative *Escherichia coli*
VISA	ESBL-negative *Klebsiella pneumoniae*
VRSA	*Proteus mirabilis*
Coagulase-negative staphylococci	*Providencia rettgeri*
Enterococcus faecalis	*Providencia stuartii*
Listeria monocytogenes	*Serratia marcescens*
Streptococcus agalactiae	*Shigella* spp.
Streptococcus pneumoniae	*Moraxella catarrhalis*
levofloxacin resistant	*Haemophilus influenzae*
penicillin resistant	β-lactamase positive
penicillin intermediate	β-lactamase negative
penicillin susceptible	β-lactamase negative, ampicillin resistant
Streptococcus pyogenes	*Pasteurella multocida*
macrolide resistant	
macrolide susceptible	
Viridans group streptococci	
β-Haemolytic group A streptococci	
β-Haemolytic group B streptococci	

- 2010 FDA onayı
  - *S.pneumoniae* (eşlik eden bakteremik olgular dahil), *S.aureus* (metisilin duyarlı), *H.influenzae, K.pneumoniae, K.oxytoca* ve *E.coli*'ye bağlı TKP tedavisi
  - Deri yumuşak doku enfeksiyonu tedavisiı

- Faz 3 hastaneye yatırılan PSI III, IV olan ancak yoğun bakım yatışı gerektirmeyen hastalar 5-7 günlük tedavi, primer amaç "noninferior"

- FOCUS 1 Klinik kür %86.6 &%78.2
- FOCUS 2 Klinik kür %82.1 & %77.2 614 hasta entegre analiz %84.3 & %77.7

Kür oranları:
- *S.pneumoniae* %87.5 %69.5
- *S.aureus* %72.0 %55.6



- Yan etki diyare, başağrısı, uykusuzluk& diyare, hipertansiyon, hipokalemi
- Her iki grupta da %4 hastada yan etki nedeniyle ilaç sonlandırıldı

REVIEW

Curr Opin Pulm Med. 2013 Feb 15

Advances in antibiotic therapy for community-acquired pneumonia

Diego Viasus[a], Carolina Garcia-Vidal[a], and Jordi Carratalà[a,b]

- **Seftabiprol**: Çok merkezli çift kör çalışma, 706 hasta seftabiprol 3X500 mg & seftriakson+- linezolid

  tedavi başarısı ve mikrobiyolojik eradikasyon benzer
- **Ketolidler**
  - **Ketromisin:** *S.pneumoniae*'nın efluks, metilasyon mekanizmalarından etkilemiyor. 2 faz III, çift kör, randomize, çok merkezli çalışma, hafif-orta TKP 300 mg/g 7 gün, 2X250 mg klaritromisin 7 gün. Klinik ve bakteriyolojik eradikasyon benzer
  - **Solitromisin:** ABD, 52 merkez, 10670 izolatla yapılan çalışmada geniş spektrumlu etki. Faz I (171 gönüllü), Faz II (64 TKP hastası) çalışmalarda güvenli
- **Kinolonlar**
  - Nemonoksasin
  - Zabofloksasin
  - JNJ-10
  - KPI-10

KORUNMA

- PPSV23
- PCV13

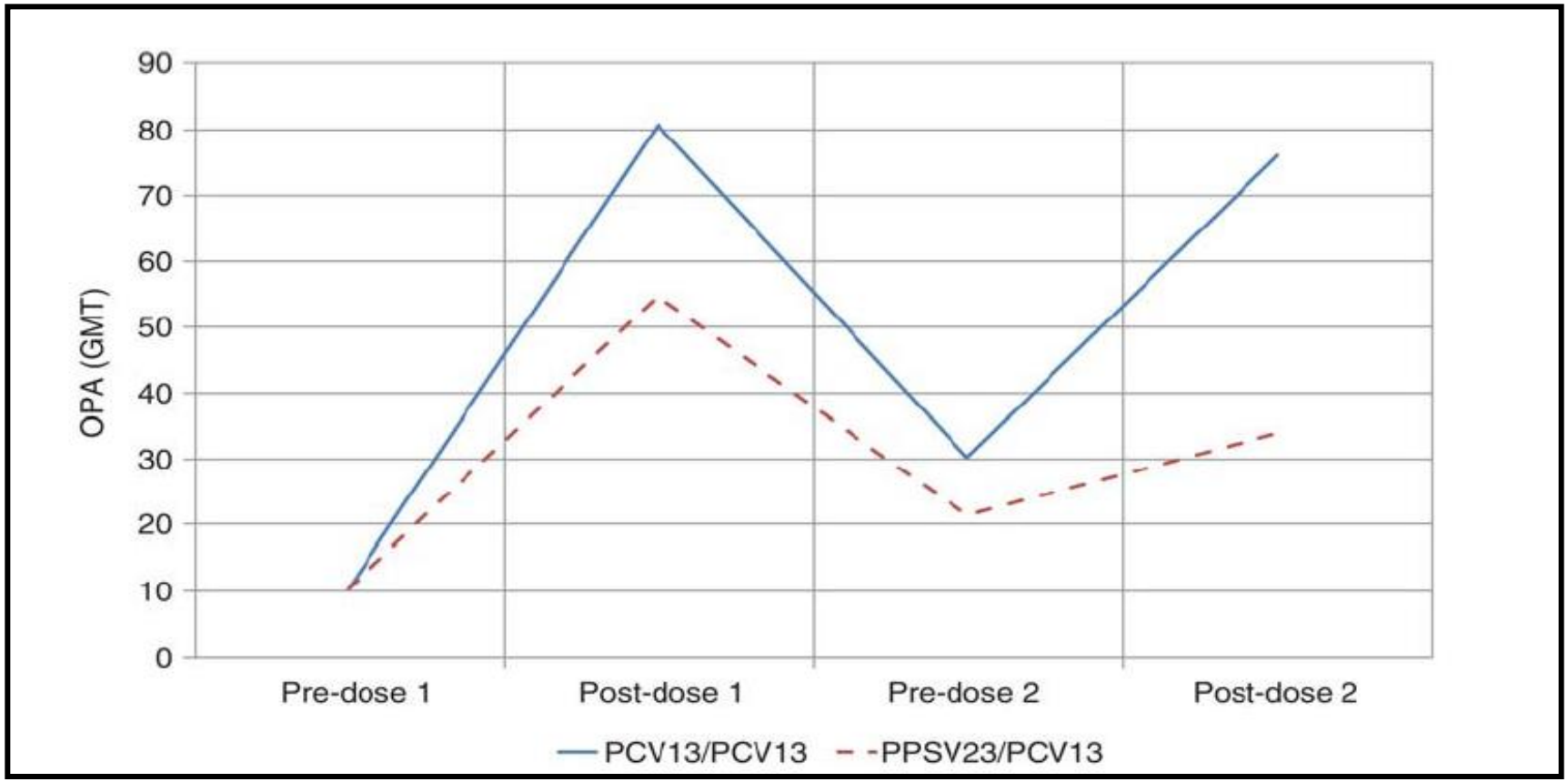
ERS-ESCMID 2011 rehberi

- İnfluenza aşısı, PPSV23 AI
- Aşı kapsayıcılık çalışmaları arttırılmalı AI
- PCV13 yeterli veri yok

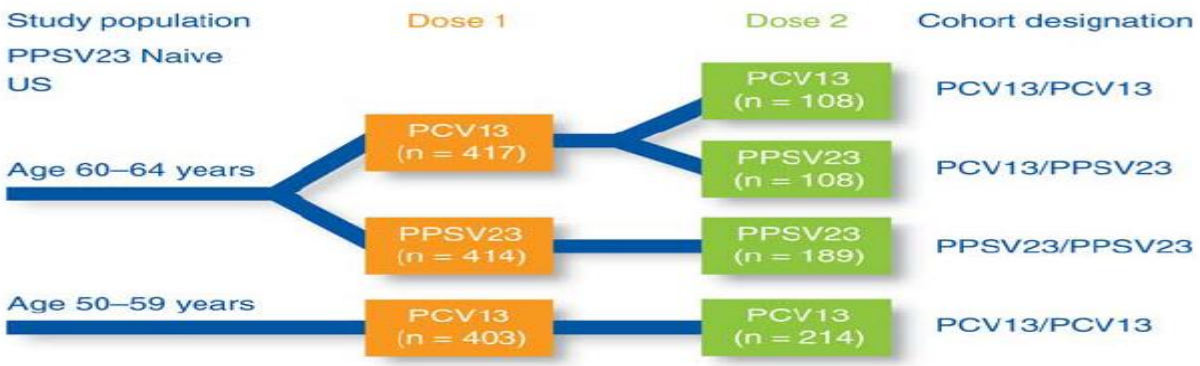
- PCV13 30 Aralık 2011 ≥ 50 yaş FDA onayı aldı
  12 Ekim 2012 ACIP ≥ 19 yaş önerilerini açıkladı

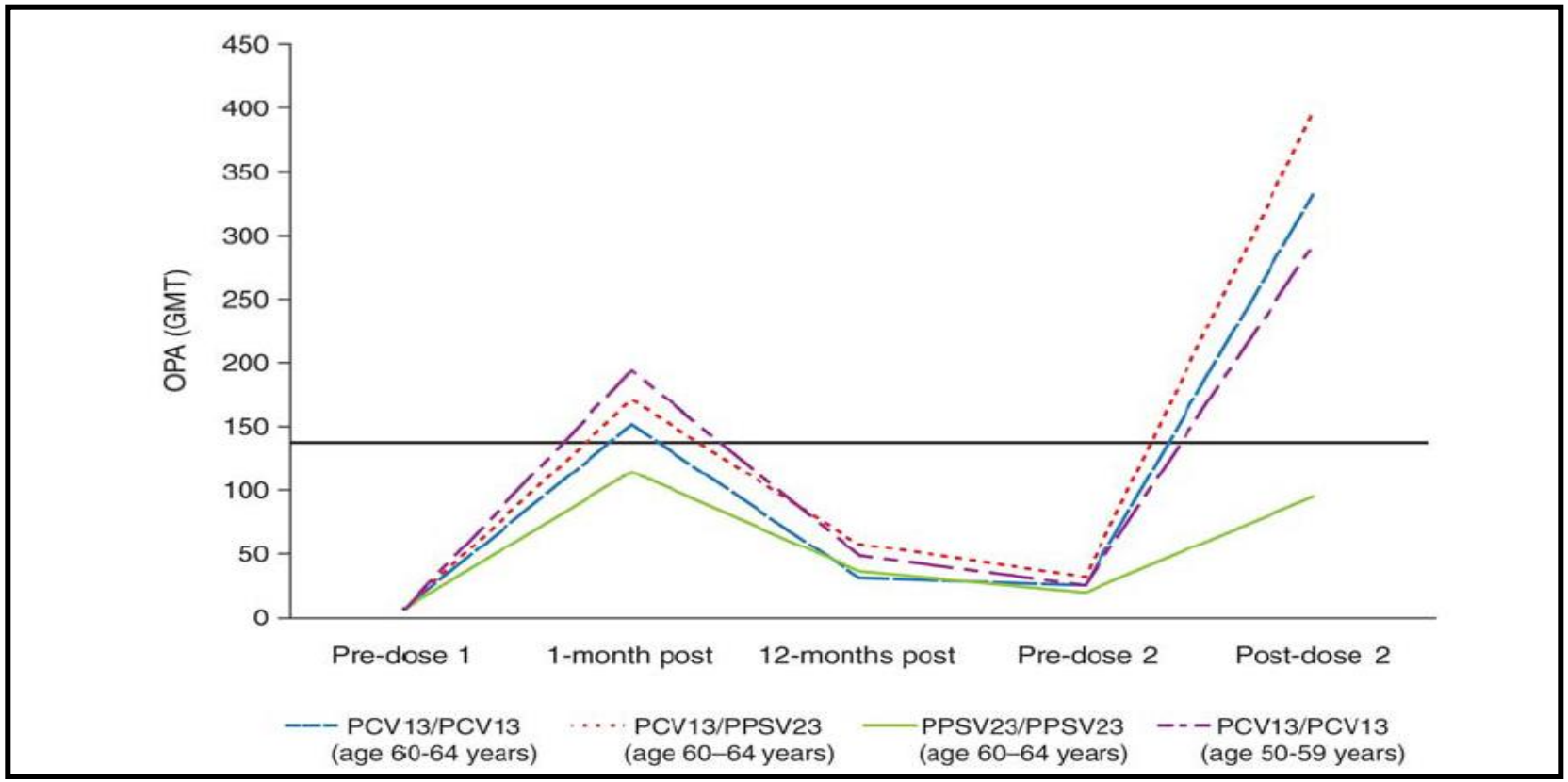
- Etkinlik CAPITA çalışması, Hollanda'da daha önce PPSV23 ile hiç aşılanmamış 85 000 erişkin, verileri 2013 yılında elde edilecek

- Kapsayıcılık?
- Erişkinde serotip çalışması az



Paradiso PR, et al. Clin Infect Dis 2012;55:259-64





Paradiso PR, et al. Clin Infect Dis 2012;55:259-64

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 61 / No. 40
October 12, 2012

Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine for Adults with Immunocompromising Conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP)

- Endikasyon: ≥ 19 yaş immünbaskılı hastalar, foksiyonel ya da anatomik asplenili hastalar, BOS kaçağı olanlar, kohlear implantı olanlar

- Daha önce pnömokok aşısı yapılmamış ise:
  Önce PCV13, en az 8 hafta sonra PPS23 yapılmalı

- Daha önce 1 ya da daha fazla doz PPSV23 ile aşılanmış ise:
  Son PPSV23 dozundan ≥ 1 yıl sonra PPC13 ile aşılanmalı

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 62 / No. 4
February 1, 2013

Noninfluenza Vaccination Coverage Among Adults — United States, 2011

TABLE 1. Estimated proportion of adults aged ≥19 years who received selected vaccinations, by age group, high-risk status,* race/ethnicity,† and other selected characteristics — National Health Interview Survey, United States, 2011

Characteristic	No. in sample	%	(95% CI)	Percentage point difference from 2010
Pneumococcal vaccination, ever§				
19–64 yrs, high-risk, total	9,056	20.1	(19.1–21.1)	1.6¶
19–64 yrs, high-risk, white	5,510	20.1	(18.9–21.4)	1.1
19–64 yrs, high-risk, black	1,547	22.8	(20.3–25.5)	4.2
19–64 yrs, high-risk, Hispanic	1,365	18.3	(15.8–21.1)**	3.5
19–64 yrs, high-risk, Asian	354	12.0	(8.6–16.6)**	0.5
19–64 yrs, high-risk, other	280	21.7	(16.7–27.7)	-4.4
≥65 yrs, total	6,641	62.3	(60.7–63.8)	2.6¶
≥65 yrs, white	4,739	66.5	(64.8–68.2)	3.0¶
≥65 yrs, black	840	47.6	(43.1–52.2)**	1.8
≥65 yrs, Hispanic	664	43.1	(38.6–47.8)**	4.2
≥65 yrs, Asian	297	40.3	(34.5–46.4)**	-7.9
≥65 yrs, other	101	67.4	(54.1–78.4)	9.0

Department of Health and Human Services
Centers for Disease Control and Prevention

CDC en Español

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  - Podcasts
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- Course Descriptions, Links, and Resources
- Terms Used on This Page

At a glance:

CDC offers numerous education and training programs for healthcare personnel. A variety of topics and formats are available. All are based on vaccine recommendations made by the Advisory Committee on Immunization Practice (ACIP).

Physicians, nurses, health educators, pharmacists, and other healthcare professionals are invited to apply for continuing education credits/contact hours, when available. For Continuing Education information, refer to the course-specific information.

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- Immunization Practice Toolkit
- Netconferences

http://www.cdc.gov/vaccines/ed/courses.htm

http://www2a.cdc.gov/vaccines/ed/whatworks/references.html

WhatWorks Home | References | Resources | Updates | Frequently Asked Questions | About This Course

What Works Home > **References**

increasing adult vaccination rates
WHAT WORKS

- Test Your Vaccination Knowledge
- Epi Facts
- Strategies to Increase Adult Vaccination Rates

References

ACIP Recommendations

Vaccine guidelines published by the Advisory Committee on Immunization Practices (ACIP):
ttp://www.cdc.gov/vaccines/pubs/ACIP-list.htm

Adult Immunization Webcast

This webcast of a live satellite broadcast covers the impact of vaccine-preventable diseases on adults, recommended vaccines for adults, coverage among various demographic and risk groups, and strategies to improve coverage levels:
http://www.cdc.gov/vaccines/ed/webcasts.htm

American Medical Association

Roadmaps for Clinical Practice series - Improving Immunization: Addressing Racial and Ethnic Populations:
http://www.ama-assn.org/ama/pub/physician-resources/public-health/general-resources-health-care-professionals/roadmaps-clinical-practice-series/improving-immunization-

The Guide to Community Preventive Services
THE COMMUNITY GUIDE
What Works to Promote Health

http://www.thecommunityguide.org/vaccines/universally/index.html

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Home » Topics » Vaccination » Universally Recommended Vaccinations

Text Size: S M L XL

Vaccination
- Universally Recommended Vaccinations
  - Summary of Findings
  - Home Visits to Increase Vaccination Rates
  - Reducing Client Out-of-Pocket Costs
  - Vaccination Programs in Schools & Organized Child Care Centers
  - Vaccination Programs in WIC Settings
  - Client or Family

Increasing Appropriate Vaccination: Universally Recommended Vaccinations

These interventions aim to increase the use of universally recommended vaccines – those that should be administered to all people in a given age group.

Task Force Recommendations & Findings

This table lists interventions reviewed by the Community Guide, with Task Force findings for each (definitions of findings). Click on an underlined intervention title for a summary of the review.

Enhancing Access to Vaccination Services	
Expanded Access in Healthcare Settings when Used Alone	Insufficient Evidence December 1997
Home Visits to Increase Vaccination Rates	Recommended March 2009
Reducing Client Out-of-Pocket Costs	Recommended

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SONUÇ

- Yerel insidans, etken profili, direnç oranları, kapsül serotipleri takip edilmeli “ULUSAL SÜRVEYANS”
- TKP “antibiyotik stewardship” programlarının ana uygulama alanlarından birisi
  - “Door –to- needle time” 4 saat → 8 saat → “olabildiğince hızlı”
  - Pnömokok penisilin MİK değerleri değişti
  - Moleküler yöntemler etken belirlenmesini arttırıyor
  - Biyobelirteçler

- TKP tedavisinde kinolonlar, kinolon direnci??
- Aspirasyon pnömonisi tedavisi rehberde yer aldı ERS/ESCMID 2011

- PCV13 ≥ 50 yaş için FDA onayı aldı, ACIP önerdi, etkinlik çalışması sürüyor
- PCV13 Aşı dışı serotiplerin oranı artıyor- sürveyans
- **PPSV23 Aşı kapsayıcılığını arttırıcı çalışmalar yapılmalı**

http://www.measlesrubellainitiative.org/mi/photos